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AUDIO VISUAL INSTRUCTION

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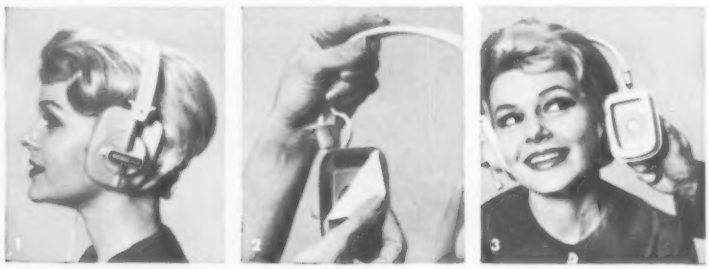

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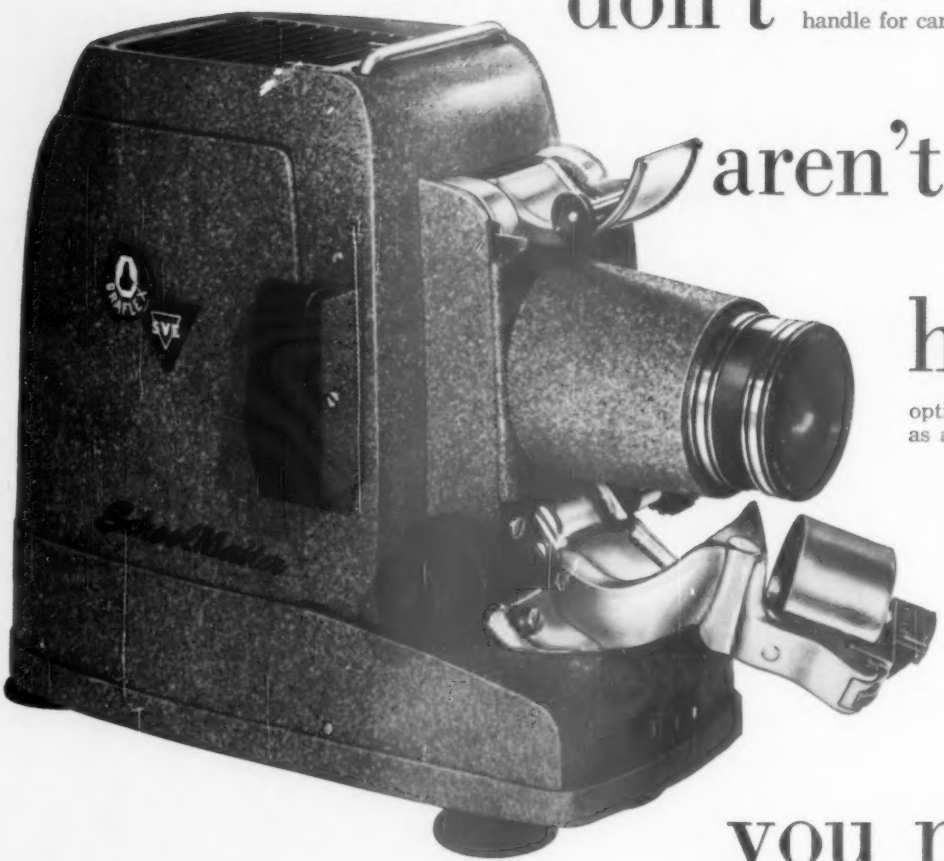

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Convention Credits: (See also Resolutions, page 291.) William Snyder, a teacher in the Broward County Schools, Fort Lauderdale, Fla., headed up the photographic team responsible for the pictures appearing in this issue. Assisting him were: George Allison, Instructional Materials, Orlando, Fla.; Bob Krebs, AV director at P. K. Young School, Gainesville, Fla.; and Clinton West and Don Winsor, Audiovisual Department, University of Florida, Gainesville. . . Persons wishing to acknowledge the courtesy extended DAVI again this year by Shell Oil Company may write: Charles Price, Community Activities Division, Shell Oil Company, 50 West 50th Street, New York 20. Shell Oil's reception for all DAVI delegates took place on the Deauville pool patio preceding the Convention banquet, Thursday, April 27. . . Through some fluke the name of Charles E. Foster, materials consultant for the Lee County Schools, Fort Myers, Fla., was left out of the printed Convention program. The national office apologizes to Mr. Foster who gave yeoman service on the registration desk with Otis McBride. Mr. Foster, who was one of DAVI's top member getters for 1960-61, has recently been appointed to the advisory board of this magazine.

Board Luncheon Planned at NAVA: As reported in May Clips, the DAVI Board of Directors will meet Sunday July 23 in Room 432 of the Morrison Hotel, Chicago, from 9 a.m. to 5 p.m. DAVI members attending the NAVA Convention are invited to take lunch with the Board in Room 427 on Sunday at 12:30 p.m. If you are a member of the Board or a DAVI member attending the NAVA Convention and if you register for the Convention as a DAVI member, your $3 registration fee will cover the Sunday luncheon. Otherwise you will be charged.

Tape Repository Moved: The National Tape Repository sponsored by NAEB and DAVI has been moved to the University of Colorado where it will continue under the direction of Robert deKieffer. All requests concerning tapes, tape duplication services, and tape catalogs should be directed to Dr. deKieffer, Director, Bureau of Audiovisual Instruction, University of Colorado, Boulder.

Convention Tapes: These tapes of major Convention sessions are available from the National Tape Repository at the University of Colorado: Finn's keynote, 30 min, $3; Teaching Machines, 75 min, $4; The New School (Gores, Trump, and Becker), 60 min, $3.50; Shayon, 40 min, $3.50; Title VII, 75 min, $4; Educational Radio, 1 hr, $3.50; Implementation of Instructional Materials Concept, 35 min, $3; New AV Equipment and Materials, 40 min, $3.50; Listening (Dean Lewis), 30 min, $3; Instructional Systems, 1 hr, $3.50; Textbooks and the New Media, 55 min, $3.50; Learning Theory, 40 min, $3.50; Foreign AV Programs, 35 min, $3; Administrator and AV Program, 1 hr, $3.50; Report to the Profession, 1 hr, $3.50; CCTV, 55 min, $3.50; Impact of the Mass Media, 55 min, $3.50. Prices include tape and service charge.

DAVI Pioneer Awards for 1961 went to: Hugh C. Proctor, consultant in audiovisual education, Texas State Department of Education; Elmer N. Moe, director of instructional materials, Sterling, Colorado; Erwin C. Welke, director of the audiovisual extension film library, University of Minnesota; Francis W. Noel (retired), formerly chief of the Bureau of Audiovisual Education, California State Department of Education; J. D. Poston, until 1960 supervisor of instructional materials, Clearwater, Fla.; F. Edgar Lane, supervisor of instructional materials, Dade County, Fla.; Lola E. Friars, audiovisual director, Tacoma, Washington; Leslie Pinkney (retired), Kansas City, Mo.; Esther L. Berg (retired), New York City Board of Education; Jamison Handy, president of Jam Handy Organization, Detroit; and Carl W. Dalrymple, Lansing (Mich.) Public Schools. M. I. Smith officiated at the awards ceremony preceding Jim Finn's keynote address.

Erickson Accepts Second Term: Continuity in the membership effort was assured last month when Carlton W. H. Erickson informed the national office that he is prepared to carry on for another year as DAVI national membership chairman. The emphasis of the 1961-62 campaign is made clear in Erickson's letter of May 10: "I do not believe," he writes, "that even an effectively organized national team of leadership workers, regardless of the effort put in, can achieve our membership goals. It is my conviction that every single DAVI member has to accept a share of the responsibility for finding and getting new members. Consider what this 'every member' participation could achieve: If every present member would get a new member, our membership would double in size, and I believe this could be done if each DAVI member would be willing to work just

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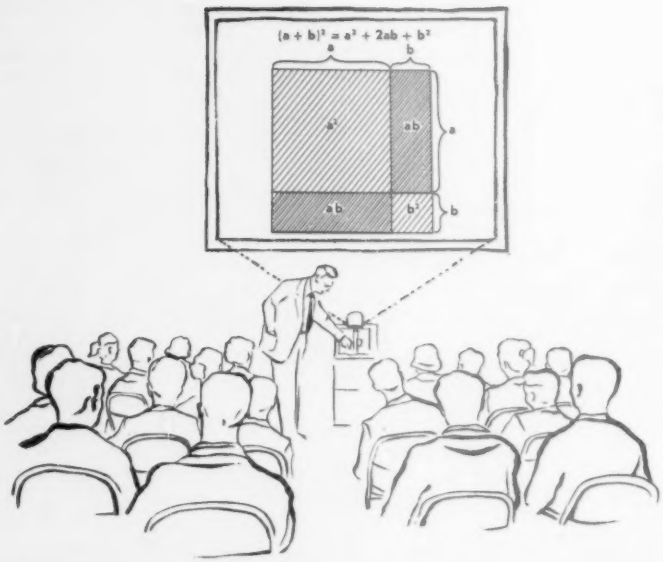

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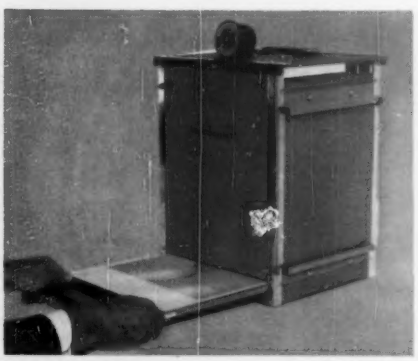

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one hour in locating a target and following through with a phone call or letter. If every present member of a state association could be induced to join the national organization, the membership would increase threefold. If only 10 percent of elementary and secondary schools could be induced to take out school and library service plans in the next year, membership would reach 25,000. I am asking all present membership campaign workers to join me for another year in a concentrated effort to reach new membership levels--and we shall be calling for the support of every DAVI member in this effort."

More on Programmed Learning: Just out, Supplement 3 of AVCR, a 124-page publication by Rigney and Fry entitled, "Current Teaching Machine Programs and Programming Techniques." Contains 81 program samples. $2 from DAVI.

Have You Thought of using "And TV Too!" as basic reading text for your TV workshop or for the TV unit in your AV courses. $1.25 with quantity discounts from DAVI.

Art Spot page 254 from Television for Children, the Foundation for Character Education, Boston, Walter Lorraine, artist.

PROFESSIONAL PLACEMENT

POSITIONS

Supervisor Campus Service: Man with doctors degree and background in education and educational media. At least 3 yrs teaching experience at college level; also experience working with faculty members. Must have knowledge of college and university curriculum; AV production, distribution, selection, and utilization. Should be skilled in working with people. Duties include directing campus service; teaching courses in school of education; supervising at least 3 employees; conducting faculty seminars; and holding conferences with various departments and divisions. Open July, $8500; western university. Box No. P-28.

AV Salesman: Man 24-40, with at least 2 yrs teaching experience, preferably science. Bachelors degree; some selling experience helpful. Should have car; expenses will be paid. Duties will include selling (mainly to schools and colleges) all types AV materials and equipment from filmstrips to CCTV. Open at once, $4800 minimum; West. Box No. P-30.

Director AV Center: Man, preferably under 45, with doctorate. Must have comprehensive training in AV education with some background and course work in supervision. Minimum 2 yrs public-school teaching experience. Also desirable some teaching at college level, some background in CCTV, teaching machines, and programmed instruction. Duties include the following activities in equal proportion: coordinating materials center; instruction of 2 or 3 sections of AV classes; supervising program of non-school laboratory experiences. Available September, $7200-$8000; midwestern college. Box No. P-31.

APPLICANTS

AV Administrator: Man with BS in Business Adm now managing large commercial film library. Experience in all phases of AV especially film rental and equipment sales. 29, married, no children; salary open, available July, locate anywhere. Box No. A-43.

AV Teaching, Directing, Production, or TV: Man specialized in film and filmstrip production and television. Also teacher and film librarian. PhD. AV director for 34 yrs, 11 yrs in present position. Teaching experience in developmental reading, education courses, and industrial arts. Publications. Has also produced 14 filmstrips and 4 sound films. 53, married; salary open, available September. Prefers Illinois, Pennsylvania, Far West, or South. Box No. A-44.

AV Position (Public School System, College Level, or Industry): Man interested in all aspects of AV--production, coordination, sales, ETV, radio, film production. Specialized in the above plus overhead projection and some photography. Also driver education and film library operation. MS communications (motion picture production). Experience as assistant state AV coordinator; producer-director-writer for university FM station and CCTV; university documentary film production. Also theater experience; musician. Driver training instructor. Teaching certificates in secondary English and journalism. FCC restricted radio-phone operator. 30, single; $5500-$6500, available July 10. Prefers Los Angeles or elsewhere in California. Box [illegible]-A-45.

The T

WHEN Jim Finn delivered the keynote address as president of DAVI at Miami Beach, April 24, what he said made some people mad, pleased others, and in general left a wake of stirred-up minds. The appearance of Robert Lewis Shayon four days later was a kind of healing antidote. Shayon came for the whole Convention, attended meetings large and small, and when he got up to speak, had some wonderful insights to add to his already generous store of knowledge as writer and broadcaster. Believing with Mr. Shayon that "the essence of communication is to escape from the grasp of the situation," we give you these two Convention messages to study again, to "hold at arms length," and to peruse in all their "subtleties and contradictions."

Florida, host to the 1961 DAVI Convention, is known as a progressive state, audiovisually speaking. At some point between the two events mentioned above, Florida's state superintendent of schools addressed a meeting of ACSSAVO and a lot of people came away with a good understanding of what leadership at the state level can mean. Mr. Bailey's remarks begin on page 251. Other convention topics follow—covered to the best of our ability, memory, and time allowed for the task. To the audiovisual people of Florida, we dedicate this Convention issue which is twice as big as any of its predecessors.—A.F.

ACCORDING to the romantic notions of Alexandre Dumas, the elder, Louis the XIV had a twin brother who was kept imprisoned in an iron mask lest he become king. The basic idea of the hidden and imprisoned twin appeals to me as an excellent starting point from which to examine the growth and place of the visual and audiovisual tradition in American education.

For it is my thesis that, even today at a time when the rapid rise of instructional technology in the form of language laboratories, teaching machines, mass film courses, experimental psychological research, television, 8mm sound film and a host of other developments has stirred American education to the point where even the deans of schools of education and the National Science Foundation have had to take notice, the very tradition from which these developments have sprung has been imprisoned in an iron mask. This tradition—the audiovisual tradition—is about 60 years old in its modern form and in its relationship to American education.

Changing the metaphor for a moment, it could be

e Tradition in the Iron Mask

James D. Finn

said that the visual or audiovisual tradition in education went through a gestation period of 60 years from conception to birth. This, however, does not really fit the case. The tradition, thought of as alive with potential but imprisoned in an iron mask by its twin, actually describes the situation much more accurately. And who, or what, is this twin that has contrived this imprisonment? I will explain in a moment. In the meantime, let me make the boundaries clear. Dale and other students back to William Johnson and Anna Verona Dorris have pointed out the debt our tradition owes to Erasmus, Pestalozzi, Herbart, Rousseau, Dewey and many others. However, I am speaking of the modern visual-audiovisual tradition which began around the turn of the century. This beginning corresponds roughly with the development of certain photographic and sound techniques and with the advent of the motion picture.

Within these time boundaries, the audiovisual tradition has been the victim of a vengeful, anxious and dictatorial twin—*the literary tradition*. The literary tradition has exhibited a naked and psychopathic fear of the "rapid communication of intelligence" on which we put such a premium. One only has to look to find it in Wordsworth, Henry James, Clifton Fadiman, Joseph Wood Krutch and Jacques Barzun; it has appeared again and again in the *Saturday Review* alongside pages dealing with film, recordings and television; it was present in the reaction of newspapers to the introduction of radio, in the neurotic response of members of Congress during the days of the Roosevelt Administration when they discovered government agencies were making documentary films; it explains the ineptness of the vast majority of school administrators in handling the audiovisual problem in the past 20 years. It even explains the attempts by the American Legion to picket the great motion picture, *Spartacus,* and the pusillanimous cooperation of some educational administrators with these private censors of communication. It may even explain the genesis of the recent Supreme Court decision on motion picture censorship, as the law is essentially a literary achievement. (10)

In any case, the basic reason is the same. The literary-oriented educational administrator has not been able to supply audiovisual materials and equipment for communication, but he can supply books. Our culture tends to fight censorship of the written word and welcomes it for the film. The literary tradition has remained supreme. The audiovisual tradition receives the second-class treatment of the unwanted twin.

The Literary Manifesto

It is not easy to understand this attitude of the literary tradition as it wages an eternal war on the audiovisual tradition. One would expect that all of the means of communication, no matter what their form or purpose—a sonata conveying a sense of nostalgia, a sonnet singing of love, a sonar beam carrying intelligence of an underwater obstacle, a sound wave riding with a television frequency—would be respected for their potential to communicate fact and feeling in a complex, essentially uncommunicative world. But it is not so with the literary tradition. The literary tradition, in fact, says: *there is but one God and it is the Word; there is but one human and he is the man with literary sensibility; there is but one world, and it has been printed on a press for all to see. Everything else is either a false God, an inhuman man or a phantom world.* This is the literary manifesto.

All this has been documented before. (3:4) However, it is important for our purposes and in these times to review and bring up to date the state of this documentation. For I am not speaking of some old-fashioned viewpoint but of a position that is in current exchange among men of literary sensibility. Consider this quotation from Joseph Wood Krutch in his 1959 volume, *Human Nature and the Human Condition.*

> Are what our school principals grandly call "audiovisual aids" usually anything more than concessions to the pupil's unwillingness to make that effort of attention necessary to read a text or listen to a teacher's exposition? Can anything be said in favor of most of them except that they are, at best, a surrender to the delusion shared by children and adults alike that the mechanical techniques of communications are interesting in themselves, no matter what (even if it happens to be genuine information) is being communicated? Are they not, at worst, merely devices for "catching" an attention which can never be given freely or held for long? How often can it be said that any movie, filmstrip, or recording teaches the so-called student—who has dwindled into a mere listener or viewer—more than could be learned in the same time with a little effort, or that the mechanical method has any virtue other than the fact that such effort is not required? Is there anything a picture can teach the pupil which is worth as much as the ability to read which he stands in great danger of losing? (7:134)

This polemic is obviously a declaration of war and vindicates my thesis that, from the *belles-lettres* side of the fence, the literary tradition intends to keep the audiovisual tradition confined. The objection may be raised, however, that a man like Krutch is not very influential and that his work can have little, if any, effect upon the audiovisual state of things. To take this view is to underestimate the power of the verbalists that

control our society—even if they are working for someone who sits behind the scenes. They control the magazines of opinion that, in turn, are read by the opinion-moulders—the *Saturday Review, Harper's, The Reporter,*—and the "think" sections of great newspapers like the *New York Times.*

Krutch is a perfect case in point. He is, of course, a great literary figure and critic. He writes with a style that is admired throughout the English speaking world. His scholarship, however, is disgraceful. Mr. Krutch, in one case that I can document, uses Vance Packard as an authority for activities of the NEA. I doubt if even the *Chicago Tribune* ever went to Paul Bunyan for facts on the Minnesota lumbering industry. Krutch's work is shot full of this kind of scholarship. Yet he continues to influence professional opinion-moulders and is fully protected by a band of worshiping editors.

When, for example, Krutch's errors in the particular case mentioned—and it had something to do with audiovisual materials, by the way—was protested to the *Saturday Review* on the grounds that his story was completely false, Mr. Harrison Smith, associate editor, wrote me as follows: "A good many years ago, I agreed with John Mason Brown that Joseph Krutch was one of the few genuine critics we have, and since then I have found no reason for doubting it." The iron curtain fell shut with the swish of the silken drape. In the meantime, the fable concocted by Packard and Krutch has been immortalized in shortened form in the book I referred to. (7:30)

While Krutch might be called the psychopathic wing of the literary opposition to the audiovisual tradition, this same attitude, albeit a little less stringent, may be found in other great spokesmen for the technology of print. Speaking of the invention of communication devices in 1957, A. Whitney Griswold, president of Yale University, speculated satirically on whether or not Yale should consider the implications of these devices in its curriculum. Following a freshman through a list of courses relating to cinema, radio, television, etc., he ends up on this bitter note:

> The freshman reads on in despair. He is looking for a course in English. He can't find one. He goes to the Dean. "English?" says the Dean. "Oh we don't bother with that any more. We have developed more efficient means of communication." (5:47)

Arthur Bestor, who is nothing more nor less than a literary critic of education, takes the position, as is well-known, that audiovisual means of communication are for babies. (2:51) The entire Council for Basic Education, Professor Bestor's organization dedicated to wiping out the NEA, follows the literary tradition with a vengeance, including, in the last few months a tongue-in-cheek attitude toward teaching machines.

As sort of a pinnacle of literary bias, I would like to cite the case of a Mr. Joseph Kerman, an associate professor of music at the University of California at Berkeley. Mr. Kerman's attitude epitomizes the never-never land in which the literary tradition resides. He argues that students will never learn to appreciate music by performing it. (6:220) I gather, too, from what he said, that they will not get much out of "long, sleepy stretches of record playing." Music, it seems, must be approached solely through symbols. Someone should tell Leonard Bernstein.

Finally, the literary manifesto against the audiovisual tradition is expressed in its best form by Jacques Barzun in his book, *The House of Intellect.* Since Barzun *is* a great scholar and possesses flexible and even, at times, poetic qualities of mind, he needs an ampler review than time and space permit. However, it is easy enough to make the main point. Barzun sees three great influences destroying what he calls "intellect." His definition of intellect leaves something to be desired but, essentially, he is referring both to the accumulated knowledge in a rather narrowly defined liberal arts (the furnishing of the mind), and an attitude of mind which, boiled down, seems to consist principally of the ability to appreciate and handle language with precision.

The three influences destroying this intellect are science, philanthropy and art. All of these are involved, one way or another, in the audiovisual tradition. Science —particularly the social science area from whence we get our research data—has been attacked by literary spokesmen for so long it needs no further comment. Philanthropy not only refers to foundations and gifts, but to an attitude of mercy toward other humans—the psychiatric or guidance approach, for instance. Thus Barzun condemns efforts at mass education which attempt to take care of *all* students through technological means such as the motion picture. (1:23) Art, in many ways Barzun's number one demon, is condemned for its non-verbal aspects and its emphasis on creativity without the discipline of language and thought.

Permit me some illustrative quotations:

> The artist turning toward ideas has been met halfway by a public turning aside from words and greedy for speechless art. . . . Everywhere picture and sound crowd out text. The Word is in disfavor, not to say in disrepute. . . . (1:16) . . . art has put a premium on qualities of perception which are indeed of the mind, but which ultimately war against Intellect. (1:17) . . . we cannot make intellectuals out of two million pupils—too many are incapable of the effort even a modestly bookish education requires. . . . (1:95)
>
> The fundamental role that language, or rather the neglect of language, plays in all these losses and failures, including the scientific, is a characteristic of democratic schooling to which I shall return. I mention language here, as at every relevant point, not only to show how frequently the reference is in order, but also to point out how the defect perpetuates itself: the unquenchable talk about education is useless because most of the speakers, having no regard for the implications of words, cannot criticize their own thought or discover its absence . . . (1:114)
>
> . . . [speaking of illustrated textbooks] What buyers and sellers cannot see is the great gap in quality between the visual and the conceptual matter they thrust on the pupil . . . they forget the two limitations of visual aids . . . Pictures by themselves say little or are ambiguous. . . . Moreover it is evident that visual memory and the power to summon up ideas are not the same. . . . Unless the student learns to turn a verbal account into the right vividness in his mind's eye, and conversely to frame his imaginings in words, he always remains something of an infant, a barbarian dependent on a diagram. (1:138)

To be fair, Barzun at times evidences an ambivalent attitude toward the language-audiovisual conflict. See, for example, his comments on the preparation of humanities professors. (1:131)

A Summing Up

These are but examples, but they show, I think, the

substance of the literary manifesto—the bill of particulars that has kept the audiovisual tradition shut up in the tower. These are powerful voices. Their influence extends far beyond the people who hear or read them directly.

And what, in sum, is the case of the literary tradition versus the audiovisual? It is the assumption, first of all, that all knowledge is developed as a result of a great Conversation (usually capitalized in order to personify it) carried on solely by words. Audiovisual communication, it is charged, destroys this Conversation.

Second, it is assumed that reading involves hard work and effort on the part of the reader and that this is so good in and of itself that it must be engaged in all the time. Audiovisual means of communication, it is claimed, do away with this hard work and effort and therefore destroy this alleged good, even if they communicate the same material. This view might be called the Puritan Theory of Linguistic Perception.

Third, books and language in printed form are mistakenly thought to be individual—as opposed to mass means of communication. This individual concept is somehow and in an unstated manner transformed into an elite concept. Books, reading, and the Conversation are for the elite. Into this dream world have come means of communication that are supposed to be mass communication devices. They transmit to all and destroy the elite concept. This is nothing less than the deadliest of crimes against society. One might call this the Jacobin Theory of Communication.

Fourth and last, it is assumed that the human heritage—writing, art products, and mathematical symbols—can be stored only in books. Any violation of this concept—the storage and use of information, ideas and even such products as dramatic tragedy on film, magnetic tape or in the memory drums of a computer—amounts to a violation of the literary heritage. It is thought to be, unconsciously perhaps, a form of book burning.

Causes and Consequences

I think the cause of this attitude toward the audiovisual tradition by men of literary sensibility is the same phenomenon that Sir Charles Snow has so well described in his now famous book, *Two Cultures and the Scientific Revolution*. I have just reread this little book for the third time. It is so insightful concerning our problem here that I am tempted to quote pages. Instead, let me give you Sir Charles' words in one of the ways he states his thesis: Because he is both a novelist and a scientist, he has lived all his life between these two groups. And he says:

> For constantly I felt I was moving among two groups—comparable in intelligence, identical in race, not grossly different in social origin, earning about the same incomes, who had almost ceased to communicate at all, who in intellectual, moral and psychological climate had so little in common that instead of going from Burlington House or South Kensington to Chelsea, one might have crossed an ocean.
>
> In fact, one had traveled much farther than across an ocean—because after a few thousand Atlantic miles, one found Greenwich Village talking precisely the same language as Chelsea, and both having about as much communication with MIT as though the scientists spoke nothing but Tibetan.
>
> . . . I believe the intellectual life of the whole of Western society is increasingly being split into two polar groups. (9:2-4)

It seems to me that the audiovisual tradition is much closer to the scientific culture than to the literary culture. The anti-audiovisual bias, then, is easily explained as a special case of this general phenomenon.

Further, the technology that transacts with science is misunderstood even more by literary men. It is also, at times, as Sir Charles points out, not understood by scientists themselves. But it is the technological revolutions that have been important. As Snow says, ". . . those two revolutions, the agricultural and industrial-scientific, *are the only qualitative changes in social living that men have ever known.*" (9:24)

I have spent the last five years of my professional life arguing that the cascade of events we are now experiencing in the audiovisiual field is the extension of the technological revolution to education and can only be understood in those terms.

If I am right about the cause of this split—this confinement of the unwanted twin of the audiovisual tradition—what are the consequences? The consequences, themselves, I think are informative. They cannot all be spelled out here, but let us look at a few.

Most school districts, county units, states, and institutions of higher education in this country have never solved the problem of the logistics of instruction. School administrators, at any level, have never been able to deliver the funds, the organization, the equipment or the materials for audiovisual instruction. This explains the lack of room darkening, acoustic treatment, and electrical power; it explains high schools of 2500 students with a person euphemistically called an audiovisual coordinator who has one period a day at his disposal; it explains the poverty of non-verbal materials; it explains why a teacher never has enough maps, films, or tapes.

School administrators and the entire school organizational apparatus have a literary orientation. The mail and the textbooks come through and that's it.

Another consequence of this allegiance to the literary side of this cultural split is a predictable resistance to innovation—especially educational innovation related to research, invention and development. Thus, many curriculum people are horrified today at the prospect of programmed instruction—no matter in what form it

may occur. The standard curriculum position, with its rather unscientific group dynamics orientation, is the opposite of the precision now being developed by Galanter, Skinner, Komoski, Calvin and others.

The generalized fear of "machines" is a simple adoption of the literary position by many educational workers who have been brought up in the literary tradition—even though they may pay lip service to other approaches to communication. The literary humanist is, by the nature of his *milieu,* fearful of the "inhuman" machines. Thus, for example, the German, Friedrich Georg Juenger, in his assault on the machine age called *The Failure of Technology,* has a chapter attacking photography as, somehow, sinful—shades of Barzun! (8:138)

(Nothing in this argument should be construed as taking sides, one way or another, on the so-called "instructional materials concept" or the role that librarians should or should not play in the logistics of instruction. This is a technical question, the answer to which must be determined by a variety of technological factors.)

The Contribution of the Audiovisual Tradition

Opposed to this situation stands the audiovisual tradition. Although kept masked in the tower, it has managed to develop (almost discontinuous with the educational enterprise) as a tradition. A slender thread, strong and fine, stretches back through the fabric of American education these last 60 years. To follow my second metaphor, strands are now rapidly being added to this thread as the coming technological revolution takes over. To return to the first, the Bastille has been stormed, and the audiovisual tradition is being freed.

It is a tradition of which we may well be proud. It has given much to American education. At the level of operation it has created the beginning of a logistics of instruction ready for introduction as the great wave of instructional technology sweeps in. The service concept (the right materials at the right time at the right place for the right teacher) and the technical concept (good presentation under proper technical conditions) are fundamental requirements of the new technology—and they are ours.

At the teaching level, we have contributed the theory of the abstract-concrete relationship and the variety-of-materials concept leading into the cross-media approach. These are well known. Not so well known is the concept of optimum synthesis. In production this means the proper combination of subject matter expert, communications expert, curriculum expert and artist; in teaching this means what has suddenly been discovered as the teaching team, but which we were working with long ago. Also, the whole business of self instruction stems in part from the audiovisual tradition. The listening-viewing corners we have put into progressive elementary schools are examples.

At the level of development, the audiovisual traditoin has brought the engineering concept into educational reality. When W. W. Charters, one of the great unsung fathers of this movement, spoke of educational engineering he was at least partly referring to the planned use of the media of communication in instruction. Invention, too, is a part of our tradition. There is nothing intrinsically wrong in being gadgeteers; I think we apologize too much for this. We have not only invented many small but useful gadgets, but we have also developed the first man-machine systems of instruction.

Fundamentally, however, the great contribution of the audiovisual tradition to educational development is that it has always been founded upon an experimental base. The closest ties in all of education, with the possible exception of the testing movement, are between experimental psychology and audiovisual education. This relationship has held since it began in 1919 with Lashley and Watson, two of the great experimental psychologists of their time. It extended across the years to include Freeman, Brownell and others down to the present when the work of Carpenter, Skinner, Pressey, Glaser, Lumsdaine, Galanter and many others receives its widest currency among us. This movement is so extensive that it is hard to separate our own researchers from the pure psychologists. Dale, Hoban, VanderMeer, Meierhenry and many more fit this description.

A portion of our tradition can be identified at the level of production. And this is very important. We have had great pressure in recent years to return to "subject matter." The audiovisual tradition never left it. In fact, we have always of necessity carried this banner and in a sense represent a conservative trend in American education. For the audiovisual tradition knows, better perhaps than the literary tradition, that when you design a communication you have to say something—you have to have an objective, a defined audience, and a subject. Anyone who has committed anything to the screen knows the discipline this imposes. Contrary to Mr. Barzun, it is a discipline in many cases more exacting than that required by the literary tradition.

The concept of programming is not new to the audiovisual tradition. Perhaps this is why we have not become afraid of it. Any cross-media approach to instruction—the linking of films, direct experiences, filmstrips, etc., together to achieve an instructional objective must be programmed. The sequencing of a film or television program is a kind of programming. Granted that the current concepts of programmed instruction are somewhat different, they are, in a broad sense, of the same pattern.

Most important, however, at the production level, has been the contribution of the creative artist, the attempt to put, as Robert Wagner has said, design in exposition. This means that the audiovisual tradition recognizes the possibilities of a rhetoric of film and other forms of visual communication. The literary tradition denies this possibility. (I would speculate from this point of view that many of the current educational productions on film or television which consist almost entirely of a teacher in front of a blackboard are basically inept efforts of literary-oriented thinkers to design visual presentations.) For the rhetoric, the grammar, of audiovisual communication exists. I suspect we will find it before the literary men find the true grammar of the English language.

The fifth and last level where the audiovisual tra-

dition has made a contribution is that of theory. We introduced the concepts of communication into education. All of the applied theoretical work on communication in education began with us and most of it is still published in our journals. Now, here is a very important point. The dichotomy I have been describing might imply that the audiovisual tradition had no use for language. Nothing could be farther from the truth. We have made an effort to understand language; we are, perhaps, as sensitive to its contributions and possibilities for the communication of facts and emotions as our literary brethren. There are those among us who have carefully studied language. For 30 years, for example, Edgar Dale has been carrying on vocabulary studies. And there are others. The work of Korzybski, Ogden and Richards and other students of meaning, the work of linguists—all of it finds a home in our councils. I venture to say that this is not true of great segments of the literary world. It may be that their appreciation of language is intuitive and ours is technical, but the reverse concept—the literary tradition paying the same attention to the audiovisual tradition—does not exist.

A Disciplined Intellectualism

Fundamental to our theoretical formulations is a rigorous discipline. Again, I feel that, within all of education, the audiovisual field, with its theoretical formulations, is the most disciplined. To borrow a wonderful expression from the sports writers, our intellectual tradition is "hard-nosed."

I have discussed briefly and much too hastily the contributions of the audiovisual tradition at the levels of operation, teaching, development, production, and theory. There are some others that defy categorization. The contribution our tradition made to and the growth it acquired during World War II has yet to be properly assessed. But we handled large group instruction, self-instruction, and new patterns of instructional organization; we created systems approaches to instruction and adapted new communication devices to learning—all in the space of four years. The Ford Foundation and others interested in these matters might have saved themselves much time and money if they had deigned to ask the proper questions in the proper places concerning this experience which is found in our tradition and nowhere else. As I have said before, it is no accident that, during World War II, Hoban handled the Army program, Noel, the Navy program and Brooker, the U. S. Office of Education program.

These great contributions are why I was so anxious tonight to initiate a tradition honoring the past presidents of DAVI. The men and women on this platform and those whose names were called have carried the audiovisual tradition through American education these last 38 years. They are symbolic, of course, for there have been many others as well. But each of these has played a major part in a very difficult effort. Our field stands where it does today because of them and their associates. Many of them will continue to carry the burden of leadership far into the future. All of us, but particularly those of us associating with the audiovisual movement for the first time, can find great inspiration here.

Rapprochement

Now that the iron mask has been removed, now that our tradition and its contributions have been made apparent to American educators and the public, do these two traditions—the literary and the audiovisual—have to remain as unbridgeable as the literary and the scientific cultures? I do not think so. An age of technology does need the softness of the humanists. And literature and criticism will become sterile, as they are rapidly on the way to doing, if they cannot come to grips with and understand this technological age. In a word, we need each other. A rapprochement is demanded; the gap must be bridged.

I do not think that the literary humanists will attempt to bridge this gap; I do not think that they could do it if they wanted to. There are, of course, many literary men who understand the audiovisual tradition. There are writers in several media, like Rod Serling; there are men like Orwell who never lost touch with concreteness. (There is even a small literary tradition that has attempted to come to grips with technology. The ambivalence of Samuel Butler toward machines and Henry Adams' embracing of technological concepts are examples.) These we can work with. The Barzuns, the Krutches, the Griswolds and their close followers are, I suspect, lost causes.

But I submit, first, that words alone and the literary sensibility will never solve our serious educational problems. They can help, but our culture is turning, must turn, to technology for this job. Thus, the demands on the audiovisual tradition are great. Realizing this, we certainly do not wish to turn people or schools into automatons and factories. Yet we must wield the technology we are developing to help solve the problems of education. There are 2000 years of human values in the literary tradition. I think it is up to the audiovisual tradition to save these values from dying at the hands of their hapless literary guardians in order to keep our own tradition, and theirs, human.

This is the paradox that is our greatest challenge today.

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The Communications Gap in t

by Robert Lewis Shayon

I left southern Connecticut about ten days ago to drive down to Miami Beach. On the way, I was certain I was heading for the 21st century. The program booklet of the convention with its scheduled discussions of technology in education, data control systems for teaching, 8mm sound-on-film cameras, and so on whetted my appetite for a week with Buck Rogers in the Space Age Schoolhouse. It turns out that I was a victim of "serendipity"—the art of looking for one thing and finding another. It was not the 21st century in which I found myself when I arrived. It was the 18th. Hardly had I settled myself in the hotel when I discovered in the restaurant an audiovisual aid under my plate which reminded me that Deauville was the 18th century playground for the court of King Louis XIV. Its luxurious atmosphere, perfumed with pleasure, epitomized the grandeur and the gratification of the royal playboys and playgirls. A bit startled, I looked around and there on every wall was a musketeer—moustached, booted, with a sword raised in one hand, and the other hand holding a shield emblazoned with the lilies of France.

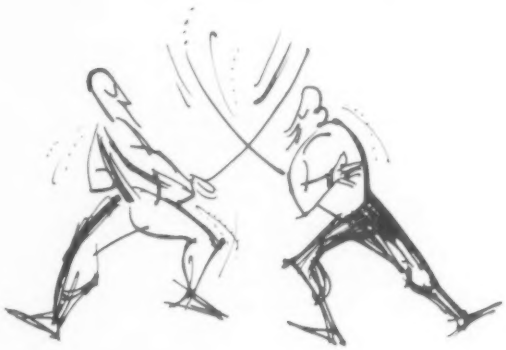
I explored my surroundings. I found myself encircled by rooms designated "Richelieu," "Musketeer," "Normandy," "Napoleon," "Baccarat," "Casanova," "Charlemagne," (the centuries began to get a little mixed up). Then, Monday night, the first general session—and lo! the climax. From Jim Finn, your president, came an imaginative keynote address entitled "The Tradition in the Iron Mask," right out of the era of Louis XIV and the legend of the royal twins as fictionalized by Alexandre Dumas. It was an agreeable denouement.

Dr. Finn's speech was a splendid example of how to preach to an audience already converted. Unlike most educational communications which follow the conventional wisdom of saying what you intend to say, then saying it, and then saying what you intended to say and said, it had the touch of the true communicator, who seizes upon or is seized by one tingling, integrating idea and develops it in three beats—the old, Aristotelian beginning, middle, and end. It certainly went after that old devil, the literary mind, and burned its iron pants.

I was doubly attentive because *Saturday Review*, a magazine for which I write, appeared to be the headquarters nest in which these literary vipers manufacture their anti-audiovisual poison. I admit I was at once tempted by the notion of lighting up a Parliament—putting on a fencing mask for that extra margin of safety—and clashing rapiers with Jim, but he had me at a disadvantage. By setting up this whole 18th century gimmick, by choosing the Deauville as the convention hotel, by charming me with grandeur and gratification, he had subverted, softened and disarmed me. In program learning terms, I have been reinforced exclusively to gallant behavior. All I could say afterwards was: "Jim, you're so right about the sins of the literati; we feel so guilty about it that we want to make amends. What can we do?" "Drop the nasty word 'literature' from the title of the magazine," he said, "and call it simply *Saturday Review*."

I agreed and immediately wired Norman Cousins. The offensive word "literature" was dropped from the masthead. Space given to book reviews was cut way down, over the loud protests of writers, readers, and publishers. Departments on the theatre, movies, television and radio, science, education, society, travel, photography, art, even humor, were added. Finally, as a sign of ultimate surrender, a monthly Communications Supplement was begun. Now people are calling it the *Saturday Review of Everything But Literature*. I hope Finn and the magazine are friends.

I've listened to and watched with great interest much of what has been said and shown here in the last three



days. I have been impressed and stimulated. There is a verve and a spirit here which I find refreshing and valuable. Questions are being asked, and old orthodoxies scrutinized. The questioning is healthy because it combines advocacy with self-examination.

I am inevitably frustrated by an exciting convention such as this one. I feel that its light is being hid under a bushel. I want to say to the public out there—the well-to-do taxpayer by the luxurious swimming pool: "Look here. Listen. This is interesting, worth your attention." I am often saddened to think that the

n the Classroom

Shayon—he had some wonderful insights.

communicators of education (no one seems to know just exactly who they are as yet) seem to be missing the boat in getting the story of education's contemporary revolution to the general public, or, for that matter, even to the majority of teachers and school boards, and to interested, motivated citizens who would like to know about it.

I know that the educators are making films. Yet, somehow, I never get to see those films. Who does see them? If, as in the case of rating surveys, no one ever calls me, who does get called by education's communicators? The apathetic, the indifferent, the anti-education individuals who most need the insights—are they the ones who see them? I doubt it. There is so much communicating to be done, so few people doing it, comparatively so little money supporting the effort, that all interested parties ought to be grateful for what *is* being achieved. I continue, nevertheless, to be oppressed by my doubts. Is there something important missing in the theories of communication involved? Have all possible techniques been explored?

Why Not an Audiovisual Record?

Consider this Convention. The people who attend will go home with a collection of facts and insights. Some of the speeches made here will, no doubt, get into the pages of that currently oppressive, allegedly dominant twin—the print media. How many people will get to read them? Granted that seeds are being sown. Granted that catalyzers have a valuable function. Granted that interaction of professionals in four days is worth thousands of words and pictures in books. Is this all that can be done?

Why, I must ask, when this Convention was designed (a convention of communications-minded people, remember)—why, when the necessary multiplicity of accessory functions were being planned in advance—hotel rooms, panels and sessions, dealers' booths, recreation trips for wives, alumni breakfasts—why was there nothing in the budget for an *audiovisual* record of this convention? Many of you believe religiously in the superior power of the visual image. Why aren't motion picture cameras around catching the sight, the sound, the effluvia of a DAVI convention? Or why don't you have a mobile, three-camera television videotape unit? After the convention is over and the delegates have gone home, you could screen what you had shot, decide what was useful, edit it, put it together, insert narration and additional material. You could put together not one but many units of communication which would be targeted at teachers, at the general public, or at school boards.

I was consulted recently by the director of a foundation who is planning a seminar for 100 distinguished men and women from this and other nations to meet and talk about education, work, and leisure in contemporary life. They were considering buttonholing indivduals between discussion periods for quick interviews on film. When I pointed out the obvious limitations of this procedure, and suggested a videotape coverage of the seminar for later careful editing into a series of programs, the director was intrigued but fearful. He had been cautioned not to allow the cameras and lights to "wreck" the virginal intellectation of the verbal romancers. Somehow contact with the tools of the mass media was considered contaminating.

The director of the foundation told me that a previous seminar had been held ten years ago. An author was hired to write a report on it. "How many people do you suppose read the report after it was published?" I asked the director. He smiled. "One," he said, "the author." Here was an opportunity, afforded by technological advance in communication, to make the valuable discussions of a distinguished group of thinkers available, potentially, to millions of listeners and viewers—and the planners drew back. "Ten years from now," I suggested, "all self-respecting seminars like yours, not only will *invite* cameras and sound recorders to make a record of them; they will be designed *primarily* for *mass communications purposes.*"

Audiovisual people in education may be imprisoned more tightly in their own quest for new communications techniques than in an iron mask designed by print-minded despots. The essence of communication is to escape from the grasp of a situation—to hold it at arm's length; to study it as an entity worth examination; to report its subtleties, contradictions, to relate it to other categories, to bounce it like a ball upon the walls of many tensions and challenges, to ask questions of it and get answers, to assess, to evaluate those answers—in sum, not only to observe and report but to interpret, to give meaning, detect schemes and patterns—ulti-

mately, to reconstruct universes of experiences. Not only is there much exciting material in educational change that doesn't reach the public. Often, that which does reach it could be better communication. Education's communications to the public tend to be either too general or too particular. Questions are debated such as "Should we put more emphasis on the sciences? Should all students study a foreign language? Should academic standards be made more rigorous?" The assumption is—everyone understands and cares. Few people, relatively speaking, care or understand. The canvas is too large, too abstract, too remote from individual experience.

Many educational communications to the public are fictional case histories of individual children. They are generally smaller than real life, and unrelated to any broad social patterns. What is lacking in both approaches is dialectic, the clash and confrontation of opposing ideas in real situations which are recognizable, informative, and interesting—like this Convention. Think of the currents and anti-currents in educational theory and practice which are flowing through these sessions. Think of the interesting cast of characters you have, the interplay of ideas and personalities. You couldn't want better material for drama, or a more significant social setting. If you caught these people in action—if you made plain who they were—what they were talking about—if you eliminated the dross, the redundancy, the esoteric—if you *commented* on it meaningfully—you'd have vivid communication that would attract and hold audiences, influence attitudes, and perhaps get action.

Action—that's what you're after, isn't it? Changes of behavior, in the public primarily, so they'll let you improve the education of their children. You assume that because *you* are excited about the technological revolution in education, the public *is* or *will be* excited. False assumption. There has been a spectacular increase in education copy in the mass media since Sputnik. But what is the prevailing mood of the taxpayer?

Here are a few items of typical evidence. A Citizens Committee in New York representing 30 organizations concerned with the schools claimed recently that education was the "biggest deficiency" in the new budget for our richest city. A committee spokesman said: "Increases go into *administrative costs* and not into services."

In St. Louis last May, according to an AP education writer, 82 percent of the registered voters in the city didn't bother to vote on a school bond issue; it was defeated by a "no" vote from 6 percent of the registered voters. In the same month in Parma, Ohio, a school issue was defeated by 285 votes out of 19,690 cast, when only 44 percent of the registered voters came to the polls. One Parma citizen commented: "I didn't vote in May and I didn't vote in November. I'm busy. I've got four kids to look after. And what difference does it make? We'll always have schools?"

In several New England towns of which I have some closer personal knowledge, many taxpayers vote against rising school costs in the sincere conviction that their children are getting a perfectly adequate education.

The *School Management* magazine recently reported on school construction completed in 1960. Roughly 4000 new structures were reported, with approximately 1200 gymnasiums, 1600 cafeteria kitchens, 806 shops—

but only 240 music rooms, and 82 language labs. I noticed the absence of any category for audiovisual or instructional materials centers. I believe that the attitudes which taxpayers have towards our schools are the adult products of the attitudes they had when they were children *attending* the schools. In every community the people who support the schools, who have the favorable attitudes are the individuals who had essentially pleasant experiences as students. My experience indicates that these people are a minority in their communities.

If the majority of the taxpayers in the communities resist the necessity for paying higher teachers salaries, for reducing the student-teacher ratio, for providing more classrooms, for meeting the cost of the conventional advances in the school program, why do we assume that they will be willing to pay for the technological hardware which the programmers, architects, and instructional materials people are avidly planning for the schools of tomorrow? The costly technological revolution may never get past the boards of finance which control the expenditures of the boards of education. Almost everywhere educators are questing in groups large and small, experimenting, researching, surveying. Breathes there an educator without a grant for a project today? In this quest, in these projects—honestly reported, mediated, and interpreted—lies an untapped mine of communications material which should be addressed to the public. The time has come within the communications profession to professionalize the educational communicator.

I have learned, in these past few days, something about the history of audiovisual people. I have discovered that they do not teach in the public school system—but merely service other teachers. They have come from a variety of backgrounds and they are groping for a new type which will give them a new character and a new function clearly understood by all. In the coming shakeup in education, audiovisual people may develop in many ways. If the programming people have their way, the audiovisual people may be eaten up in the data control process. Or there may be *teams* of communications people, again perhaps, dominated by the technologists. Whatever the hierarchy that develops internally in the profession, I suggest that you must develop a mutation of the audiovisual type whose specific function is to be a pandemic individual.

The Pandemic Audiovisualist

The word "pandemic" was coined by Professor W. H. Cowley of Stanford University's department of education. Pan, of course, is the Greek form meaning universal. Professor Cowley asserts that three kinds of individuals are to be found in every society. The first is the "logodemic." He is the scout on the frontiers of knowledge, concerned exclusively with discovering new fragments of truth and adding them to the world's stockpile of knowledge. The logodemic is at one end of the spectrum. At the other end is the "practidemic" type. He is the individual who puts to practical use the knowledge discovered by the logodemic man. Between the logodemic and the practidemic is the "pandemic" man. His job is to mediate between the other two types. This mediation is necessary because the logodemic man speaks an esoteric jargon which only other logodemics understand—and logodemics are comparatively rare. Einstein and Planck, according to this scheme, would be described as logodemic. Few people can understand the subtleties of relativity or of quantum mechanics. Yet it is necessary that many more people should have some useful notion of these abstract concepts.

Pandemic man is the man who can get the general drift of the logodemic's ideas—translate them, and communicate them to the practidemics. The pandemic communicator must be a generalist. He must be able to catch the essentials of all the specialists' mysteries, without being contaminated by their parochialisms. He must be a student of his audiences. He must be schooled in esthetics. He must be a philosopher with the hand of a showman, the heart of an educator, and the spirit of a poet. Many of you may not aspire to such a combination—nor can any of us truly achieve the ideal. Yet, as you educational technologists shape your future character you must recognize the importance of *this member* of your team—and do what you can to train him for his work. He will be your image-shaper to the public. The image-shaper has become the man at the behavior controls of the 20th century. In a world where the real has become too crowded and complex, we seek relief and personal equilibrium in symbols and images. The programmer of instructional materials may aspire to control individuals in formal situations. The image-maker conspires to control multitudes in vast, unstructured contexts.

Outlets and Timing

As for the market for these communications—it is not necessary at all to look to the commercial broadcasters for marginal time. They will do what they can and what they must. Educational TV and radio stations are obvious outlets for this kind of communication. But what about PTA meetings, luncheon groups, women's clubs, town meetings? What about the whole web of community interaction? I have sat in on my share of PTA meetings addressed by teachers. My impression is that they are parochial. They tend to restrict themselves to local educational problems and practices. They do not reflect the more exciting and broader vistas in educational advance and research. I have also found a reluctance among educators to publicize experiments or projects before they are carefully verified, tested, and accepted universally by peer groups. I think this is a mistake. No one knows the outcome of an honest fight, horse-race, baseball game, or political election. Yet the public is interested.

Educational communicators will help shape favorable images of education if they will dare to present the schools as adventurers in the suspense of their pursuit rather than only when the race is over and drama stale or fled.

Another communications gap in the classroom is that characterized by long-lasting attitudes towards school developed in students. What assurance do we have, looking ahead 10 or 20 years, that the students today, when they become the parents and taxpayers of tomorrow, will have any more favorable attitudes towards

school than their parents have now? What is being done in the classroom to develop such attitudes? Nothing directly, nothing in the curriculum, so far as I have observed. It is all supposed to develop as a by-product of the educational process. Children, it is assumed, will naturally learn to love school by going to school.

It doesn't work out that way. Radical re-design of school architecture, it is widely assumed, will make schools more pleasant settings in which to learn. The increasing use of gadgets will appeal to the play fancy of children. I have seen pictures of stand-up teaching machines that I could hardly distinguish from a pin-ball machine.

One great thing is lacking. That is, a view of education itself—as an institution, one pattern of a society—fruitful and interesting as a study in its own right. The idea of breaking instruction down into small, easily manageable steps may be good learning theory for skills and information. More important in education, however, is conceptualization, generalization, a gestalt approach to experience, in short the esthetic, intuitive, poetic approach of the humanities. Why must students wait until they become education majors in a university to begin to learn about the history of education itself, its contemporary expressions in our own culture and in other cultures?

The parents of tomorrow must be made ready for educational change in their own time. The technologists will be making an unfortunate error if they assume that once they develop their ideal programmed schools, change in education will have ended. Obsolescence is the twin of technology. Once you marry the machine, you go where the machine goes—and the machine never stops. Our students today must be educated for the dynamics of continuous change—not only in society as a whole—but also in the schools.

Schools themselves, education itself, should become a subject for study in the early grades and should stay in the developing curriculum. To study tax structures, bond issues, learning theory, educational history and experimentation is a great deal more directly meaningful to a child than the study of the resources, climate, and industry of Morocco. I wouldn't leave Morocco out, but I'd be willing to wager that under present methods of teaching, any child would be more highly motivated in learning about teaching machines than about the phosphate industry of Morocco. Again, it is the inheritors of the audiovisual tradition who should take up this job. They will be at the heart of educational change. They will have the audiovisual materials and communications techniques to make the subject matter interesting.

A third communications gap has developed in the contest between education and the mass media. An important new insight in this area has been offered recently by Wilbur Schramm of Stanford University, and two associates, in their recently published book, *Television in the Lives of Our Children*. They elaborate the following theory, based on several studies during the last five years. Up to the sixth grade, most children, it seems, are avid fans of television, regardless of their IQ's or home backgrounds. Between the sixth and the tenth grades, however, a shakedown process takes place. Many youngsters lose interest in television and turn more often to print media, for information and entertainment. They watch educational television if it is available in their communities.

These children are classified by Schramm as "reality-oriented." The children who go on watching TV avidly are labeled "fantasy-oriented." It is this fantasy-seeking group of children who go on to become the adult mass-audience for television fantasy. This group is obviously the majority group in our culture. What is it that decides whether a child at about the tenth grade remains fantasy-oriented or becomes a reality-seeker? Schramm suggests that it is the home environment into which the child is born. If the parents are print-minded (reality-oriented), television generally enjoys lower status with them. Eventually, form will tell, and the child reared in such a setting will begin to show his heritage and change course. If the child finds himself in a home setting where the parents are fantasy-oriented, where TV enjoys a high prestige, he will stick to the family pattern.

The problem presented to education (for what other institution will wrestle with it?) is—can the fantasy-seekers be moved over to the ranks of the reality-oriented? Obviously, this *must be* done if our political and social institutions are to remain adequate to meet the challenges of our times. I can find little that the schools are doing about it. Many teachers don't watch the programs the children watch, or they make little effort to integrate them into the classroom work.

The schools generally hope that, as a by-product,

"audiovisual people, think greatly of your functions—

education will develop taste, judgment, discrimination in the art forms. The history of popular mass entertainment argues otherwise. If schools are to be re-designed around instructional materials centers, provision should be made for incorporating the study of the mental food our children imbibe from three to five, often as much as six hours a day. "Checkmate," "77 Sunset Strip," and "Perry Mason" are vital facts of contemporary life. They loom large as fantasy and prestige factors for children. Along with the better programs on television, they ought to be dissected and examined as carefully as frogs in the biology laboratory. Many children in cities have never met and probably never will meet a frog.

I know that here and there beginnings have been made but they are only beginnings. There are no common texts, no instructional materials, no designed curriculums. It is mostly "enrichment." The influence of the mass media in our lives is no longer merely a matter of "enrichment." It has become a matter of vital diet. In a computer space-age era, children are being taught to operate jets and to design rockets. The advent of the 8mm sound-on-film camera and projector gives schools the opportunity to teach children how to make films. Educational television ought to be used to teach children how to make TV programs. Tape recorders ought to be used to teach children how to make sound programs. Only by doing, instructed by people who seek their creative development rather than their entertainment or exploitation, will they begin to discern the mass media output with greater sophistication. The training for such discernment in the schools, beginning with the early grades, offers the only hope that may modify for the better our strongly established commercial systems of mass information and entertainment.

The Fourth Gap is "Way Out"

My fourth communications gap in the classroom is rather "way out." Yet it is the most important, unmined field of educational development. "Senior Citizens" is a phrase which has come suddenly into our vocabulary. The facts of the aging in our society are rapidly being focused. By 1975, this nation is expected to have 20 million people over 65. Man, authoritative biologists have said, has a natural life expectancy of 150 years. If the curative and preventive medicines achieve their imminently expected breakthrough—survival to 100 will be common. There are already over 3000 centenarians in the United States today. Average life expectancy at the time of Julius Caesar was 26. At the turn of the 19th century it was 38. Today it is 71 and climbing all the time.

The implications for society are enormous. Solve the problems of income maintenance, housing, health, etc., and you still haven't solved the biggest problem. This is the retirement problem. Automation in industry will no doubt press the retirement age down rather than up. People may soon be forced to retire from gainful work at 60. Yet they will be living to 90 and beyond. And not in slow mental and physical decline. Doctors are now talking of "high-level wellness," in which people can achieve creative fulfillment in their later years marked by altruism and service to fellow men.

To achieve this, however, will require a revolution in our attitudes to work, education, and leisure. Our society has been geared, by religious and business traditions, to work, to achievement and status in industry and the professions. Forcibly retired to pasture, many older citizens are breaking up psychologically, degenerating into psychosomatic illnesses, physical and mental, because they cannot reverse the gyroscopes set spinning in them by a competitive society. The rhythm of human life in history has always looked forward to family rearing and work as its climax. Now this rhythm develops a new phase. The climax of life can no longer be status on the job. People must be taught that mere play is not true leisure, that manicuring lawns in sunny Florida is not the proper finish to human experience. Industry, first to feel the effects of the new development in pension requirements, is haltingly beginning to prepare workers for retirement with commercially syndicated pamphlets on "How to Retire Gracefully." This is hardly enough—and it begins far too late.

The experts in the field tell us that the way a person reacts to the later years is the product of his response to the middle years. This adjustment, in turn, depends on his behavior in youth, and so on, back to childhood. Our schools are still preparing children for a life whose climax is work. What about the half of that life that may be lived outside of work? The schools must begin to reshape cultural attitudes to work, to play, to learning. They must begin to do this in the early grades, where the basic attitudes are formed. A literature is

you have nothing to lose but enrichment"

beginning to shape up in the field of aging which is ready to be incorporated in the schools.

The four communications gaps in the classroom which I have mentioned have not yet been internalized in education. They are unorthodox, often suspect as impractical. To me, as a non-professional, however, they are vital. On the marches of education intangible, subtle and elusive influences are taking shape. I would like to see the pandemic generalist communicators of education take them lovingly to their audiovisual and technological bosoms. I would be sorry to see the audiovisual people become merely the technical handmaidens of the other disciplines.

I have been struck by the conspicuous absence in our times of the educational philosopher. Since Dewey, the philosophers have sort of shied away from education. A few of them are getting up steam again here and there. They are badly needed. Again and again in your deliberations in small groups I have heard plaintive questions raised: *"What* are we? *Who* are we? What should we *really* be doing? What good are our gadgets without a preparation and a follow-through, without teachers who know how to use them? What we need is leadership."

No Longer Handmaidens

What you are sensing—without articulating it because it is frightening—is that education's development now calls the audiovisual people to be no longer librarians, projectionists, circulators of other people's material, coordinators of administrative schedules, but philosophers of education, generalists, and mass communicators—in and out of the classroom.

The age of the mass man is truly here. De Tocqueville foresaw it. Ortega wept when it arrived. Some often ask: *"Why* are mass media and mass education so important?" Whitehead has an eloquent answer. "The Greek philosopher," he writes, "who laid the foundations of all our finer thoughts ended his most marvelous dialogue with the reflection that the ideal state could never arrive till philosophers are kings. Today, in an age of democracy, the kings are the plain citizens pursuing their various avocations. *There can be no successful democratic society* till general education conveys a philosophic outlook."

"Philosophy is at once general and concrete," Whitehead continued, "critical and appreciative of direct intuition. It is not—or, at least, should not be—a ferocious debate between irritable professors." "Every epoch has its character determined by the way its populations react to the material events which they encounter." "It is our business—philosophers, students, and practical men—to recreate and reenact a vision of the world, including those elements of reverence and order without which society lapses into riot, and penetrated through and through with unflinching rationality. Such a vision is the knowledge which Plato identified with virtue. Epochs for which, within the limits of their development, this vision has been widespread are the epochs unfading in the memory of mankind."

Audiovisual people and educational technologists—I hope you will think greatly of your functions. You have nothing to lose but "enrichment."

Change and Challenge

by Thomas D. Bailey

I READ SOME TIME AGO of a man who kept a folder marked "The World of Tomorrow," in which these were among the facts compiled:

One article reporting 2000-ton supersonic passenger planes traveling at more than 1000 miles per hour and carrying 300 to 400 passengers. The target date—1965.

Another describing the new superliners to Europe carrying 6000 passengers each at a cost of $50 per person each way. The probable date of launching—1962.

A third reporting a speech by Dr. Bortz, a former president of the American Medical Association, in which he predicts a life span of 125 to 150 years.

An article by David Sarnoff of the Radio Corporation of America forecasting atomic batteries "long before 1980" and a new form of light known as electronic light.

Other articles predicting the use of solar and atomic power for homes, automation on farms, electronic air-conditioning, and large-scale climate control.

But there were also articles on the threat of overpopulation, on the explosive potentialities in the widening gap between "have" and "have not" nations, on the likelihood of widespread racial conflicts, and on the terrifying possibilities of a super-scientific war with nuclear, chemical, and biological weapons.

With changes coming so rapidly, one realizes how risky it is to hazard guesses on the state of the world even in the next few months and how ridiculous it is to speak with certainty about the world 25 years hence. Who, for example, would have said a year ago that the Belgian Congo would be independent in 1960?

The implication for education is obvious enough. With the launching of the space age, educators must expect, more than ever, to be continuously confronted with new ideas. The curriculum will have to provide studies in subjects as current as the morning headlines and as old as organized knowledge; as functional as the skills of a new job and as rewarding as the humanities; as vital as pending legislation and as sensitive as human relations; as close as a community problem and as remote as a missile's orbit; as intimate as family living and as public as international peace; as elementary as the three R's and as advanced as the educational needs of the community it proposes to serve.

I have determined that there are four general factors which influence improvement in education, and they must receive careful consideration:

- Large enough administrative units including school centers should be provided to offer economically a diversified curriculum in order to meet the needs of all children and adults.
- Excellent teachers are, in my opinion, the most important of all factors. A good school is a collection of master teachers.
- Adequate and modern facilities to house an expanding school population are vital. The best possible environment conducive to optimum learning and consistent with long-range economy should be provided. We have found from recent experience that when bids were opened at the same time on two schools in the same county calling for identical facilities, a completely air-conditioned school was the cheaper undertaking.
- The most modern instructional aids must be made available to teachers. Included among these should be educational television and visual aids of all kinds, language laboratories, teaching machines, and excellent library facilities for all schools.

These factors, in a general way, will provide the basis for further detailed exploration in determining a curriculum to meet the needs of all the children of all the people. We must remember that our public school system is not a contest to select a winner. It is a process to help each child—the retarded, the average, and the academically talented—to reach his highest attainable goal. I want for every child in America the kind of education that the wisest and most intelligent mother and father want for their child.

Educational media are materials or devices for assisting the teacher to communicate with students or for enhancing independent learning. Books, periodicals, and all forms of printed materials are some of our oldest and best forms for storing information and for duplicating it in quantity to provide for individual study. They are basic tools in the hands of competent teachers to help meet the challenge of individual differences in ability and interest.

On the other hand there are the so-called mass media such as motion pictures and television which can provide superior lectures, demonstrations for very large audiences, and most important, bring to students contemporary facts.

Between these two extremes is the entire range of aids and materials used by teachers in classroom instructional activities—charts, graphs, models, mock-ups, teaching machines, laboratory apparatus—in fact the whole area of graphic and manipulative devices.

In Florida we have committed ourselves to a concept which unifies all of these materials and devices into a coordinated service program within our local school

systems. For this program we use the title Instructional Materials Service and we like to think of our school libraries as instructional materials centers which provide not only books but all kinds of valuable instructional materials with the necessary services, equipment, and leadership needed to insure that they can be conveniently used.

In implementing this concept we have established a certification for instructional materials personnel which covers both library science and audiovisual education. It is no longer possible for a school librarian to be certified in Florida without having had training in both these areas as well as certain general and professional training.

We have done this on the theory that the best way to provide specialized professional service is to establish one source within each school to which teachers may turn for all kinds of instructional materials and equipment. This idea carries over to the supervisory level and many of our counties have supervisors of instructional materials who are trained to handle both library and audiovisual services.

Conducive to Leadership

Florida is fortunate to have a county unit system of school organization with no independent districts other than the county unit. Furthermore, there are just 67 counties and each of these is provided with one or more instructional supervisors by the state. This gives us a considerable advantage in terms of coordination and program development through state leadership. It does not by any means permit the State Education Agency to control local programs and we try to be very careful to avoid undesirable control. However, this type of organization does provide us with an opportunity for leadership at the state level which would be much more difficult in states having several hundred school districts of widely varying characteristics.

Not all of our schools have embraced the idea of a unified materials service and probably some of them never will. Many schools continue to separate audiovisual services such as scheduling and handling projectors and other equipment. In most of these instances, the audiovisual coordinator serves on a part-time basis giving primary attention to his regular teaching duties. As additional personnel are trained under our new certification, we expect that an increasing number of schools will move to the unification of these services. At any rate, we have adopted this as our model.

With the tremendous growth in electronic and mechanical teaching devices such as television, language laboratories, and teaching machines, we are beginning to find, however, that our model is obsolete in some respects even before it has become fully operational. There are relatively few librarians whose interests and inclinations will take them far enough into this field to provide adequate leadership and service for some of the newer programs.

The instructional materials specialist is adequate to supervise selection, cataloging, circulation, maintenance, and other services relative to the operation of a good materials center. However, when we encounter problems of classroom design for effective utilization of the newer media, production and utilization problems in TV, and problems of inservice training, we find that other specialized services are required.

In many school systems throughout the country the development of educational television has come as a separate enterprise not too well related to the instructional materials program. We have in some cases failed to make adequate use of audiovisual techniques in our television teaching and we are concerned with the proper organization and procedure for most effective correlation of educational television with other audiovisual resources.

If educational television is to succeed it must avail itself of the wealth of excellent material which has been developed in the form of 16mm films, and it must make fuller use of other creative visual devices such as transparencies, charts, working models, and dramatic skits. Many of these devices have to be produced locally for the studio teacher and we need production services of this kind for our regular classroom teachers as well as for the studio teacher.

Television is forcing a re-examination of school schedules to provide for presentations of 20 to 30 minutes for students assembled in large groups. Currently we are wasting a great deal of time in our use of television by having the large groups remain in assembly for a full hour even though the telecast for which they are assembled may last only 25 minutes. We do this largely because we have thus far been unable to break away from the lock step of a 55 or 60-minute period. Accrediting agencies must assume some responsibility for this road block.

Television is also forcing a new flexibility in class grouping to accommodate class sizes ranging from four or five pupils to six or seven hundred. We are well aware of the implications that this has for school-plant design, and the Educational Facilities Laboratories have done an excellent job in analyzing this problem in their illustrated report, *Design for ETV*.

Another impact of television, and perhaps the most significant of all, is its effect upon the role of the teacher. The prospective biology teacher no longer faces a career of four or five classes daily for which he must repeat essentially similar presentations and somehow provide laboratory experiences. Instead, he has a choice to make: he may become a studio teacher; he may become a teacher of large classes; he may become a specialist in supervising students' laboratory work; or, he may specialize in counseling and directed study with the aid of teaching machines. He may also find himself provided with the services of one or more semi-professional aides and a clerical machine to help with scoring, record keeping, and similar chores.

Not So Futuristic

This futuristic state of affairs may be closer at hand than we think. Already there are some school systems in which the use of teacher aides has gone beyond the experimental stage. In Florida instruction by television is an integral part of our educational system with a half million or more students receiving regular instruction through this medium.

The explosive interest in teaching machines and pro-

grammed learning during the past year is rivaled only by that for language laboratories the year before. Two years ago we had one such language laboratory in Florida—located in a university. Today some 75 are in operation in our public schools. We have a trial effort under way in Jacksonville with approximately 140 teaching machines of the simpler type being used for a course in algebra in four schools. We foresee also over the next few years rapid development in local production of instructional materials.

As we turn more and more to the use of technological devices, as we develop specialized techniques in teaching and new patterns of school organization, as we devise new means for getting the most out of our professional human resources in the interest of increased learning efficiency, we find that our traditional teacher training programs are inadequate. We can no longer justify teacher preparation which does not include thorough training in the "tools of the trade." We must expect every teacher to be competent to draw upon the full range of modern resources in educational media. If a course in audiovisual methods will accomplish this, perhaps we should require such a course for certification of teachers—as some states are doing. We have the great responsibility of up-grading or offering additional training to our present teaching personnel.

It may well be that the opportunities for increased productivity and specialization provided us by these multi-sensory aids to instruction will become the lever which raises teaching to a higher professional status, but pre-service training alone will not bring about the millenium.

It is urgent that we exploit every resource, mechanical and electronic as well as methodological, to achieve this increased efficiency in learning and increased productivity on the part of professional personnel. The educational media specialist faces a tremendous challenge in devising means of fitting the resources at hand to the job to be done. Too often we have gone astray in our attempts to adapt technological devices to the job of teaching. We have applied these devices in programs which elicited negative reaction on the part of the professional observers. Equipment and materials have been purchased and, in some cases, have gathered dust through misuse—or in other cases have been applied under makeshift conditions and inadequate programs to the detriment of quality education.

Such mistakes are bound to occur as we explore the use of new devices and new techniques. The point at issue is not to determine who is to blame for our not having applied these things more intelligently; it is rather to determine how we may apply them more successfully in the future.

School administrators, supervisors and teacher training institutions are by and large open to suggestions and advice which will lead to more effective instruction, but this advice must be communicated to them in such a way that it seems clearly appropriate to the particular problems with which they are faced.

The media specialist is by definition an expert in the field of communicating ideas effectively. It is his great responsibility to influence the future direction of education by developing soundly conceived ideas in concert with his colleagues throughout the entire profession, and then to draw upon his own media and techniques for communicating these ideas to the teachers and administrators in such a way that they are translated into action.

I believe there are many signs that the situation is going to change rapidly. The American people are more concerned over problems of education than I have ever known them to be in my more than 40 years of experience in education. The current controversies over education are more bitter and acrimonius than I have ever known them to be. I would like to think, however, that this reflects intensity of concern which will result in substantial support for improving the quality of education at all levels. It is toward this end that we must all work together.

THE NEW SCHOOL

ARE AUDIOVISUAL AIDS IN? Yes, in a fringe sort of way. But if you really want to get the new media into the fabric of instruction, you will have to make some dramatic changes in the school setting. You will, in effect, have to "focus on change." This was Lloyd Trump's message to the third general session of the Convention.

Out to make war on the "box, box, box, box rhythm" of most school buildings, Harold Gores said that the important thing is to free the student from the tyranny of the group, stay out of his way, and permit him to proceed with his learning in a mature and dignified manner. His advice to the AV profession was: change your image. Don't let the public think of you as mass teachers. Your contribution will be in "returning education to the individual."

Harry Becker, superintendent of schools at Norwalk, Connecticut, site of experimentation in team teaching, was the third panel member.

Most of the audience likely had some acquaintance with the various pursuits of the principals: Lloyd Trump's ideas have been expounded in *Image of the Future*, the film *And No Bells Ring*, and a publication just out: *Focus on Change: Guide to Better Schools* (from Rand McNally, P.O. Box 7600, Chicago 80, $1.25, with quantity discounts). Harold Gores is president of the Educational Facilities Laboratories whose *Profiles of Significant Schools* and *Design for ETV* have been cited as recommended reading by this magazine. The Norwalk team teaching experiment has been reported in a number of educational magazines, *Grade Teacher*, to name one. Nonetheless getting these three

apostles of new education together on the same platform with their own interpretations and personal messages to DAVI made this one of the most vital and timely sessions of an extremely timely Convention.

Dr. Gores appeared first, recounting 10 questions which, he said, reach the portals of ETL with most frequency. In his words:

1. Can instruction ever be good if its setting is not also intimate, and conversely, are there kinds of instruction that cannot be good unless the setting is less intimate?
2. How can you get a more or less intimate setting when every school building is designed with only one kind of space—box, box, box, box, and at the end, a cavernous auditorium, hangar-like gymnasium, and gorge-and-go cafeteria.
3. How do we reduce impoverishment of learning by systems—how do we depart from our enchantment with the optimum grade placement of everything? What do we do with the bright youngster who doesn't fit into optimum grade placement?
4. Can we ungroup students—and group teachers? Can we ungrade time? Can we unschedule subject matter to give access to a youngster when he's ready for it and without regard for when the culture says it's appropriate for him to study such matters?
5. How do we bust out of boxes? Can you design operable walls, movable at will and at once?
6. How do we design from general space back to boxes?
7. How can we create mature environment (since the objective of education, especially in high school, is to mature the student).
8. How do we raise the status of the teacher from general practitioner to clinic specialist?
9. How do we move from a self-contained classroom to a self-contained school? Or to a self-contained cluster of classrooms?
10. How do we design schools for urban renewal—how through the design of our schools and their functioning do we save the big cities?

This represents a broad program for new education—islands of which, Dr. Gores said, are appearing here and there in the United States. For instance you can find in Las Vegas a school with an immediately divisable auditorium which cuts itself into three separate spaces; in Bethesda, Maryland, a circular physical education facility made of steel (in which you can do something else beside play basketball—who knows what physical education will be like in 2000 A.D.); in Andrews, Texas, a high school with wall-to-wall carpeting (to save on fuel cost, improve acoustics, and contribute to the dignity of the occupants); in New York City, plans for a commercial high school on the first eight stories of a building the top 20 of which will be occupied by a compatible private enterprise (it is estimated that in 40 years the building will pay for itself); and in the Chicago loop, plans for converting an office building into a senior high, junior college combination.

In the future watch for "space for the little fellows" in their own apartment buildings. What is more logical in a housing complex of 30 or so stories than to teach kindergartners at home? Watch also for clustering of space, which Dr. Gores describes as the "special domain" of the audiovisualist.

"Because when you cluster space," Dr. Gores said, "there is frequently an instructional resources center in the middle. Here is where the program gets out of the way, the youngster gets unhooked from the standard groupism, and has a place to pursue learning at his own rate. The great challenge to you people, the great virtue of your specialty is that these mechanisms of which you are expert are the principal ways of returning education to individuals."

Can you group teachers? How do we raise the status of the teacher from general practitioner to clinic specialist? Dr. Gores had asked.

Team Teaching Has Some Answers

It appeared subsequently that Dr. Becker had at least some of the answers—solutions that would sweep aside the ancient concepts of self-contained classrooms at the elementary level and departmentalization in high school. The former, Dr. Becker said, is based on two major premises: (1) that each teacher can and should teach the entire curriculum; and (2) that each teacher can relate successfully to all pupils. Experience bears out neither of these, Dr. Becker contends.

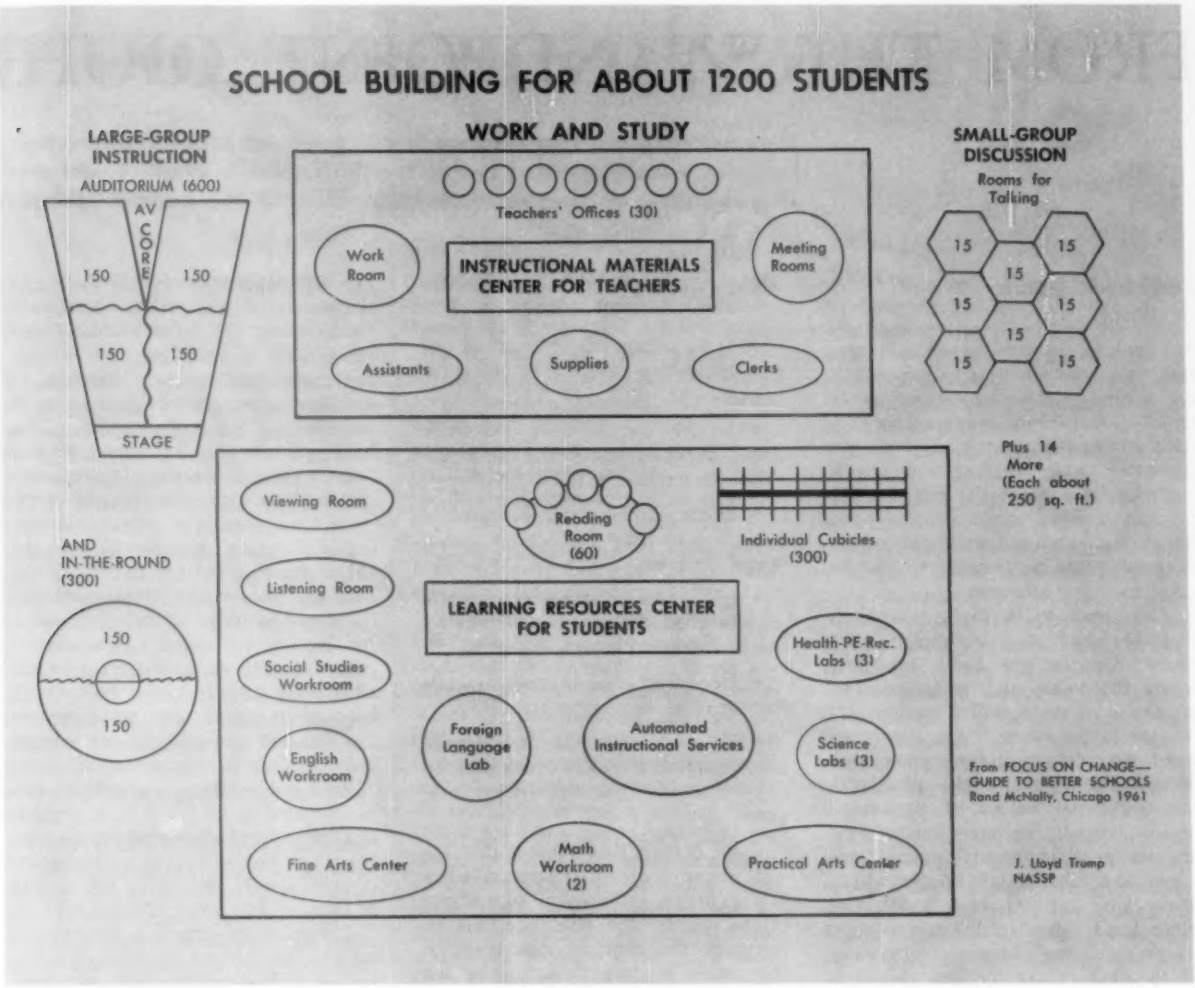
Reporting on the experiment at Norwalk (which is confined largely to elementary school) Dr. Becker said that team teaching is necessarily a hierarchical arrangement in which jobs are sharply differentiated, ranging from team leader to clerical aide. The latter, usually a mature and interested person in the community, fills an important need in educational life, freeing up to 40 percent of teacher time. The instructional program is highly coordinated and cooperatively planned and executed. One team member usually does the major share of the teaching; other members help; but the concept is "we." This is a distinct departure both from the self-contained class room where one teacher tries to go it alone, and from departmentalization, which isolates teachers according to subject matter.

Team teaching is almost guaranteed to improve instruction, Dr. Becker said, because it facilitates optimum grouping of pupils, optimum use of teacher strengths and talents, and optimum use of materials and equipment. It changes the role of the principal, freeing him from routine duties to concentrate on the curriculum, and equally important, gives the talented teacher some place to go. Team teaching is not synonymous with large group instruction, Dr. Becker said, nor does it save money.

How Long, Good People, How Long?

Speaking to an audience of "fellow heretics," Dr. Trump began and ended his remarks with the above supplication, and somewhere between threw out this challenge: "Are we going back home to weasel in a little AV here and there or do we say: 'AV cannot get off the ground unless we lick the problems of schedule and curriculum.'"

The heart of learning, Dr. Trump said, is the cen-



ter—the learning resources center for students and the instructional resources center for teachers. Devoting his attention to the former, Dr. Trump presented the diagram shown above and explained it thus:

The reading room at the top is for rare books—books commonly used will be located in the workrooms. The viewing room will be used at will by students as individuals or groups (a likely home for the 8mm film, Trump indicated). Tapes will be available in the listening rooms for students to work with and use at their convenience. The individual cubicles will be for independent reading, writing, and thinking. (Not all students will use these spaces—only those sufficiently motivated and mature to break out of the classrooms.) Only the rarer automated devices will be found in the room thus designated—the more commonly used ones will be in the workrooms. The workrooms (English, math, science, etc.) are somewhat larger than conventional classrooms and are characterized by the tools pertinent to the subject matter. Work here is also largely on an independent basis.

At 14 years of age, according to the Trump plan, the student would spend an average of 40 percent of his time working independently. No teacher, Dr. Trump said, should be scheduled for more than 15 hours per week with students, just as students should be scheduled for no more than 15 or 16 hours per week in classes. The key to the school of the future is getting students into the "central places" and this is made possible by the spaces indicated at the extreme left and right on the diagram. The rooms for talking on the right are places for interaction where students, no more than 12 or 15 at the time, meet for discussion. On the left are the presentation rooms for large group instruction.

The educational scheme presented by his diagram has been tried in one place or another, Dr. Trump said, and *is operational*.

How does this relate to AV? Instead of equipping a few rooms with the proper darkening, acoustical treatment, etc. to which you can take students, you integrate seeing, listening, and reading as they are needed.

"Too much togetherness, that's the trouble with schools today," Dr. Trump concluded. "Students always in classes, and teachers locked in with them. They've got to break out if teachers are to be professional people and if students are to develop independent responsibility for their own learning."

FROM THE STANDPOINT OF THE SC

Here are excerpts from the speeches of three nationally known superintendents who appeared before the Convention in a concurrent session Thursday morning to discuss the values of the audiovisual pro-

Forrest E. Conner, St. Paul

MY WORRY ABOUT educational automation—these attempts to use technical devices to solve educational problems—is that on the one hand we may treat it too superficially and that on the other hand, we may not treat it superficially enough. We may discard, to our sorrow, much of the good which has produced excellent results over the years and which will still be good in years to come.

This seems to be like no problem that we have, as a profession, ever faced. On the one hand, we must assess the value and importance to education of the so-called modern educational "hardware." On the other hand, we must reassess our knowledge of how learning really takes place and the traditional values of person-to-person contacts between the teacher and the pupil in the classroom. Certainly no teacher should do that which a machine can do better. On the other hand, we shouldn't try to substitute machines where a combination of the skill of the teacher who is a master of his subject, and students who are highly motivated, produces great amounts of information, proper attitudes, and skills.

For now, I would say that we should be tempered "enthusiasts" but that we should keep in mind the concept of what you people in the audiovisual circles refer to as "saturation," and that in the use of these new media, we do not discard the methods and appliances we already have which have proven to be highly efficient and effective in the learning process.

This implies a great deal of administrative planning and action. What role should the school administrator play in encouraging and controlling the use of audiovisual materials? Unquestionably, the attitude of the administrator toward this media is a critical factor in determining whether and to what extent these materials will be used. His attitude need not necessarily even be verbalized—only implied—to have a pronounced effect on intelligent classroom use.

Clues to an administrator's attitude will show up in his attitude toward the following questions:

- Is the administrator aware of and open-minded about these technical developments?
- Is the administrator concerned about preparing teachers to use audiovisual materials?
- Is the administrator prepared to provide leadership for a good audiovisual program?
- Is the administrator prepared to provide adequate financial support for the instructional materials program?
- Does the administrator facilitate the use of audiovisual materials?
- To what extent has the administrator set up a means which periodically evaluates the audiovisual program?

I am certain that I speak for the vast majority of administrators when I give to the audiovisual supervisors of the country the assurance that we recognize the extreme importance of this media in properly arranging the educational process so that it may fit the talents needed in the next 40 years of the 20th century. To achieve the quality and quantity of teaching necessary to attain this objective, we pledge you our wholehearted support and cooperation.

Bennie Carmichael, Chattanooga

WHAT CRITERIA DO WE USE to identify the positive and the negative values of the audiovisual program? I would like to share with you a few of the answers I have formed for myself. After the first, you may conclude that there can be no others, because it reads: *An effective audiovisual education program must serve to increase the effectiveness and efficiency of teaching and learning.*

Recently I devoted considerable thought and study to the topic of balance in the curriculum and finally concluded that balance may be achieved or lost through (1) emphasis in the seven basic content fields; (2) the application of knowledge of the nature of children to their audiovisual needs; (3) the influence of personal traits of teachers, and (4) the one most significant here, methods of teaching as they relate to the use of materials, aids, and supplies. Real balance in the curriculum may depend heavily upon the variety of approaches and methods used in teaching children.

As an extension of effective teaching and as a contribution to the achievement of balance in the curriculum, the audiovisual program should be judged in terms of its *effectiveness for serving individual differences of pupils.* While we have tended to use audiovisual aids for mass instruction, how many important developments are directed toward and are serving individualized instruction as well.

As a last criterion, *audiovisual aids can be used very effectively to provide and promote independent study and learning.* This of course we recognize is very closely related to the matter of meeting individual differences.

These, then—effective instruction, balance in method approaches, serving individual differences, and promoting independent study and learning—I offer as rather important function bases for judging the positive and negative values of any audiovisual program.

Naturally in the audiovisual program as in most other aspects of education, thought and consideration are focused on personnel. You who have trained, prepared, and furnished the leadership in this field are to be commended for the great job you have done to gain for audiovisual aids their essential places in the educational process.

At the same time, however, major weaknesses in the program may be traced to personnel. Some are little more than gadgeteers, expending most of their time and energy tinkering and experimenting with equipment. These persons rarely develop more than the "form" of the program and make very little contribution to the "substance" of it. To be sure, they may have made some excellent contributions to the field, but in the school program and in the teacher education

E SCHOOL SUPERINTENDENT

gram—plus and minus. They were introduced by Superintendent James W. Bushong, Grosse Pointe, Michigan, who acted as chairman. Margaret Divizia, Los Angeles AV director, served as commentator.

program, I find them making little or no contribution to the achievement of the goals I establish.

By implication I have introduced another important aspect of the audiovisual program which lends itself to evaluation. There is no greater potential for strengthening the program than through pre- and in-service education. On the plus side, I would cite such examples as I have found developing in our own school system wherein, as a part of the study and planning for teaching social studies, some extensive, excellent and special provisions were made for the use of audiovisual aids without actually identifying them as such. This approach for the positive side I would compare with the chance approach often characterized by use out of context and bordering on entertainment and time killing.

The best utilization will occur when the teacher does not "stop" to include or supplement with an audiovisual aid. They are there and are used to achieve a purpose with as much ease and skill as she uses the most common one, the chalkboard.

It should be obvious that in connection with such use we are speaking of something different from the conventional classroom. We are visualizing the classroom as a learning center, or as Roy Barron wrote in the September 1959 issue of *School Management*, "every classroom an audiovisual center." Some modern classrooms are more nearly approaching this description, and as they do and receive the natural utilization of teachers, I attach more positive values to the program.

E. W. Rushton, Roanoke

These excerpts are from the last part of Dr. Rushton's talk, the first portion of which was a description of the Roanoke programmed learning project. See "First Reports on Roanoke Math Materials," page 150, April issue of AVI.

ANY NEW APPROACH designed to improve instruction has both positive and negative values. In an effort to point up some of them, I shall confine my remarks to a few statements on both sides of the coin.

In the first place, there is the negative aspect of indifference. If there is a more deadening influence on the instructional program, I don't know what it is. I remember a recent conference where the attitude seemed to be that administrators need not occupy themselves overmuch with the new media because their main problems concern budgets, buses, and bonds.

Following very closely and allied to indifference is outright opposition to change. It is sometimes a lonely existence for the administrator who wants to try something different and runs head on into opposition coming from such sources as bureaucratic control and stubborn resistance within the profession as well as outside.

Another negative aspect of the newer media is the attitude towards cost. We have the textbooks, some maps, globes, and a limited number of other teaching aids, but prospects for audiovisual tools on an adequate scale seem to get bogged down with cost. One of the first questions asked is what does it cost rather than what are the educational values to the pupil? We must re-evaluate the tools of learning in the light of the needs of the mid-twentieth century youngster.

There is also an inadequate in-service program in the whole field of audiovisual instruction. There was a time when almost any teacher could be assigned the job of keeping up with all the audiovisual equipment. I'd like to think this is not true today, but a look at many staff organization charts shows what appears to be a dearth of audiovisual directors. If my cursory examination is accurate, this situation emphasizes the low worth and value of audiovisual instruction. Trained staff is essential in effective utilization of the best we know in education.

What about the school plant? When I see school buildings constructed as they were a quarter of a century ago, I think it nothing less than tragic. Yet with the urgent need for more classrooms and other facilities the procedure is speed. Speed and school plant planning in light of instructional needs are certainly incompatible. Educational leadership is desperately needed in this area. No longer should the architect be the determiner of educational programs.

What have we learned that bids fair to positive values? I'm inclined to believe that school leaders are becoming more aware of what is required for good schools. Better trained leadership, good public relations, improved communications media, more community support and appreciation, are some of the evidences reflected in better schools across this country.

One positive aspect of the audiovisual program is the fact that individual differences are receiving more realistic consideration.

Time to teach is another positive value.

The utilization of better trained teachers to help less qualified instructors is a hopeful sign. We are receiving more help from institutions of higher learning in the pre-service training of teachers. College and university faculty members are working more closely with school administrators in this respect. As this trend continues, more research will be available to aid in improving the quality of our total educational program.

Another plus value is federal government assistance in procuring audiovisual aids. NDEA has made possible not only equipment but know-how.

The newer approaches to instruction with excellent teaching aids open a completely new field of endeavor. How can we do a better job with our instructional personnel to meet the challenge for both quantity and quality? The exciting designs of instruction and the emerging patterns of staff utilization have real promise of greater achievement on all levels of education.

The creative genius of American leadership has made this country great. New teaching aids and better plants are finding greater acceptance in leading school systems. This positive value should make it clear that we can improve educational opportunities—American style.

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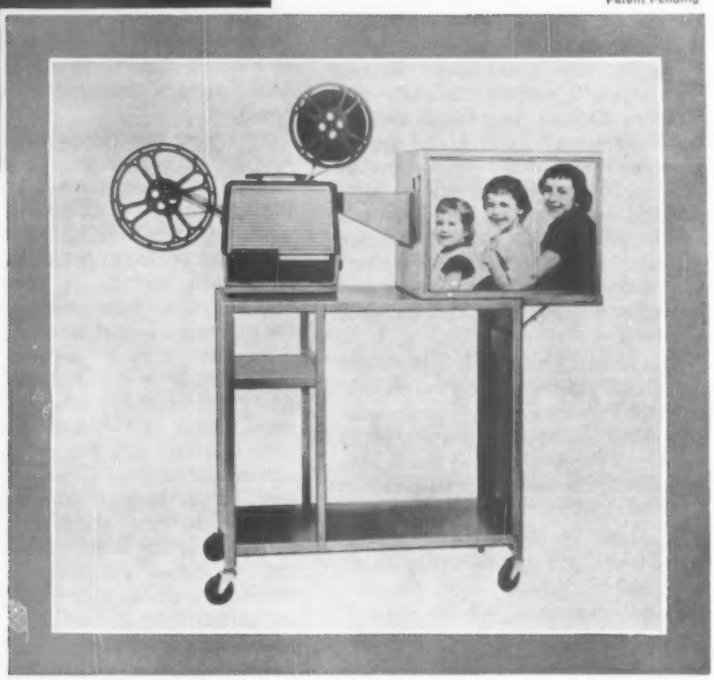

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What is the Potential of Audiovisual Devices?

Put to a cross-section of Convention delegates through the skillful interviewing of Bernarr Cooper, the above question called forth answers reflecting a variety of professional interests. In order to permanently record this "audiovisual pulse" as taken in 1961, the editors selected the interviews that follow in this section. DAVI is grateful to the Magnetic Products Division of Minnesota Mining and Mfg. Company for their donation of tapes, and to Dr. Cooper. The latter is with the Department of Speech at Florida State University.

Charles Eames

Q.–*Mr. Eames, tell us, what is your feeling about the potential of instructional devices to upgrade the quality of education in the United States? Indeed, what is your idea of a major instructional device?*

A.–Well, I think perhaps we have had one of the greatest instructional devices in the great teacher. The great man who has the warmth and who is willing to give of himself. As a matter of fact, even those that are not willing to give of themselves, the crotchety old guys, these are pretty good devices.

Q.–*In other words, you would place first the human being rather than much of the hardware which we have begun to think of as instructional devices.*

A.–Well, I have nothing against the hardware. The human being is the best. You asked me what the best was. Unfortunately such human beings aren't on the production line. In fact, they're very few and far between. I think that next in line is perhaps some of those people who themselves are involvable and have learned through their love of the great teachers and perhaps passed some of it on.

Q.–*Do you feel that these people learning to use what has come into the field in the form of teaching machines, television, radio, and so on will, in time, upgrade not only their own potential but also the learning potential of the students.*

A.–Well naturally I think any teacher or anyone working in any profession today—each person in order to make his capabilities stand for something a little more worthwhile, uses extensions of himself. A scientist in the laboratory wouldn't expect to look for a virus with his naked eye. He uses a microscope as an extension of himself. If the teachers and educators think of these devices as extensions of themselves, of course they are of tremendous benefit.

Q.–*Do you feel that insofar as the layman is concerned there is a responsibility on his part to make available such devices to the teaching profession in the form of, let us say, basic economies?*

A.–The responsibility of the layman is to make himself available. There are plenty of laymen who would vote to put through an appropriation for funds for these devices, but few of them would make themselves available on the learning end, and this is, in a sense, our real problem.

Robert Lewis Shayon

Q.–*Mr. Shayon, what is your feeling about the potential of radio and television to upgrade the educational quality of our public school system in the United States?*

A.–I am fascinated by them and excited about them. I know they will have their controversial aspects and many things about them will have to be tested and proved, but in the long run I think they will tend to make children greater participants in the educational process and more actively concerned with creative processes. This will be all to the good in the general public awareness of what better things can be done in the mass media.

Q.–*You know there has been criticism of both radio and television in relation to this business of creativity. There's a feeling abroad that the two media are really not very creative and that they cater to a low level of taste.*

A.–Well, I think that this is by and large very true for

very overriding economic reasons in the business of broadcasting. I feel that the only breakthrough area to modify and change this pattern lies in the schools, and the opportunity offered by the greater use of such devices as the 8mm sound-on-film camera which will be handled by students and teach them how to go about creative processes. This is a really important breakthrough opportunity which education is offering for improvement in this field.

Q.–*Do I detect then from what you say that creativity is not a matter of learned methodology? This is a matter of development within the individual, within the child?*

A.–I think it is a matter of both. I think that the actual tactile handling of content materials, learning how to shoot a film, learning how to cut, learning how to edit —all these things can create discernment and awareness by the child which will stand him in good stead when he views the creative work of other people, and will make him a better judge of what quality is. Today, most people know nothing of the creative techniques of producing films, television programs and radio shows and consequently are poor judges of what can and cannot be done.

Bennie Carmichael, Superintendent, Chattanooga City Schools

Q.–*Dr. Carmichael, what is your feeling about the potential of instructional devices?*

A.–My reaction would be that there is much potentiality in audiovisual devices. First, I think they can lend tremendous support to the upgrading and improving of instruction as instruction is considered a science; that is, they can provide a specific stimulus for desired response, extend the influence of the teacher in terms of relieving her of time and in terms of new materials and new content to be covered. Also, I think that audiovisual aids and many devices that are now being made available to education will strengthen the quality of teachers themselves. They require more discipline, I suppose, require more and better planning, and more effective use of all of their time and resources for teaching. These, to me, represent two important roles that the new devices may play.

Q.–*I feel from what you say, you think, too, that the teacher has a very definite responsibility in relation to the use of such devices?*

A.–The teacher has a greater responsibility, in my opinion, than she has ever had before. After all, the devices are mere mechanical tools which will sit idle without the proper use by teachers, and certainly they cannot diagnose the needs of children and know when to turn themselves on and off, or what to present. They've got to be completely controlled by teachers, which, of course, is a process of passing judgment, and these judgments must be passed and these media used at the particular time that a person wants to accomplish a certain purpose in education.

E. W. Rushton, Superintendent of Schools, Roanoke, Va.

Q.–*Dr. Rushton, what is your feeling in this matter of instructional devices?*

A.–Well, Dr. Cooper, I'd have to answer that in terms of one particular area of automatic teaching, and that is programmed learning. That is something we know a little bit about because we're involved in a program of that kind. If I were picking out one salient point, it would be that it provides for individual differences better than anything I've seen at this point.

Q.–*How does it provide for this, as you see it?*

A.–Well, I'd like to mention several points that might be considered. One is that we think of individual differences as the individual pupil advancing at his own rate; he doesn't have to wait on someone else, he goes at his own pace. I think another has to do with the individual. He has a feeling of success, of accomplishment at each stage of this program development, because each is a little step in itself, and progresses from one to the other. This is good sequence development. A third is that the individual is made to depend upon himself. That, we might say, is developing good study habits, and it helps in self-discipline. A fourth would be that the individual learns for himself, naturally, and therefore is able to do better work in other subjects.

Q.–*How does this work?*

A.–Well, they—the boys and girls—tell me that they not only learn the math program—(this is our project) —but the learning also carries over into other subjects, and consequently their grades are better in these other subjects than they would be without this kind of development of study habits. It gives them a feeling of security and success, and consequently they want to learn more than they would if they hadn't had this feeling. Then, the individual reads with more comprehension, I think. This certainly is a valuable by-product of this project in which we are involved. The student has to read with understanding, or he won't make it.

Theodore A. Johnson, Assistant AV Director, St. Paul

Q.–*Mr. Johnson, what is your feeling about the potential of instructional devices?*

A.–I don't think there's any question, Dr. Cooper, but that it is important that we make use of modern technology if we are to economize on time. The curriculum is becoming more complex, there are more things that are entering into the organization of education every day, and our children have to be subjected to stimuli. The only way we can probably do it, is to partially mechanize. That doesn't mean that we have to be robot teachers, or anything of the sort, but we do need these assists. Our children have to be familiar with things that are going on, not only in our own country, but throughout the world. The teacher can't keep abreast; we must insist that we obtain the aid of others.

Q.–*You've mentioned teachers several times, Mr. Johnson, and I detect that you don't feel these audiovisual devices detract at all from the function of the teacher.*

A.–You're absolutely correct there, Mr. Cooper. They must be definitely integrated, and be used so naturally by the teacher that she's not aware that she's using a mechanized piece of equipment. They must be used just as naturally as she formerly went to the chalkboard. Now, instead of taking the extra time to draw this diagram, she presses a button and there's a diagram. A great saving of time, and probably drawn a lot better because it will be drawn by outstanding artisans in that particular field, and well researched.

Q.–*I would like to ask what, after 15 years' audiovisual experience, you see in terms of progress?*

A.–Well, of course, many changes have taken place in these 15 years—new devices, they've been simplified, they've become more effective—the effectiveness of projection in classrooms is much superior to what it was when I came into this field 15 years ago. Of course, television has come into use in our schools and now we're looking forward to the large TC screen so we will not have to have a dozen screens scattered throughout the auditorium as I witnessed this morning. I think that with these technological devices (we're getting the assistance from the entire technological organization in our country) we'll get a better type of learning for the student.

C. R. Carpenter, Professor of Psychology, Pennsylvania State University

Q.–*Dr. Carpenter, will you tell us your feelings about the potentials of instructional devices?*

A.–Well, this is a rather difficult question and the first point that I would make is that we have a multiplicity of these devices ranging all the way from simple projecting devices in the classroom to airborne television in the Midwest. In order to carry on this discussion we ought to be a little more specific in defining the area of discourse.

Q.–*Well, of course your interest and your research has ranged so widely that I almost hesitate to pin it down. But let's pin it down to instructional devices in the classroom itself. Tape machines, recordings, devices of this kind.*

[Dr. Carpenter asks, "Would you include films, radio, and television?" and Dr. Cooper answers, "Definitely."]

A.–Of course these systems aren't easily contained in one classroom. They frequently involve a school or school system or region and therefore we are discussing the potentials of these media which have enormous possibilities for extending information. I think one of the major functions of the distributive devices like radio and television is when you use them in connection with films and video tape for getting information out to people where they are—where they can study—and when they need them.

Q.–*In other words, broader dissemination of more material?*

A.–That's right. And if you reason that this is an improvement of quality such as raising the general educational level of larger numbers of people, well then I can see enormous potential for raising quality.

Q.–*What do you think is the responsibility of the layman in making such devices available?*

A.–I think one of their principal responsibilities is to try to understand what these devices are and that they may be, for example, a central part of a facility of an educational system or educational institution. They are not luxuries. They are, and can be made, an intimate part of the educational process.

Eugene Galanter, Professor of Psychology, University of Pennsylvania

Q.–*Dr. Galanter, tell us, what are your feelings about the potential of instructional devices?*

A.–Well, everybody can't speak on everything, so I would have to restrict my comments to those things in which I am confident.

Q.–*And your special field, of course. . . .*

A.–Teaching machines. Teaching machines are now about five years old. The important part of course is not the machine but rather the program that goes in it, and this is the part in which I am most interested.

Q.–*Of course you know many of our listeners are unacquainted with the term "teaching machine" and they feel that this sort of takes the humanity out of the whole teaching process. You might want to say something about this.*

A.–Well, it's nothing really spectacular. It's no more than a special kind of book. It's sort of a magical book though that won't let you go ahead until you are sure that you know what is on the last page. So you read a page and it checks to find out if you understand it, and then it lets you go on to the next page. And so you proceed by slow steps through the material—the book constantly asking you questions and you giving answers and the book checking to see whether you are right or not.

Q.–*And you feel that these machines have a real place in upgrading the quality of education?*

A.–They will relieve the teacher of approximately one third of his or her time which can be devoted to giving special and individual time to the students. In addition, the machines will provide an expanded curriculum—a curriculum expanded in a variety of directions which will improve the general level of the educational process in the next 20 years by, I would guess, a factor of ten.

Q.–*In other words you feel that almost ten times as much learning will be accomplished over the next few years by the proper use of this particular device.*

A.–There seems to be no question that the device itself

will upgrade education in general and there is no question in my mind, although this of course is a personal opinion, that the upgrading will be profound. We can expect high school graduates to have gone through, in addition to the classical materials, work in statistics, calculus, advanced science, and be able to read and write at incredible speeds and with great comprehension.

Mode Stone, Dean, School of Education, Florida State University

Q.–*Dr. Stone, tell me, can instructional devices be used for upgrading the quality of instruction throughout our educational system?*

A.–Of course, the answer to that question is in the affirmative, Dr. Cooper. My own understanding and appreciation of the importance of visual aids in the instruction program actually grew out of my experience in World War II with the Training Division of the Navy Department. As you probably know, some of the enemy countries at that time realized we would be able to produce the implements of war in sufficient quantity to win the war, but felt that we would fail to teach the young men of our nation to use those implements effectively. Well, I was part of the Navy Department when the AV section of the Training Division was first organized. I stayed very close to the organization, and know a great deal about its effectiveness in teaching the young men of our country to use the implements of war, which of course was highly successful.

Q.–*Do you feel instructional devices can be used equally effectively throughout our entire system, whether we use it for the slow learner or the accelerated learner?*

A.–The answer to that question, I think, is reflected somewhat in the fact that we have a department of audiovisual instruction in the school of education at Florida State University and it permeates the entire training of all of the young people who are going out to teach in our schools. I should like to say that the upgrading of quality in education to me is synonymous with the upgrading of understanding. Also with the effectiveness and the conservation of time in the way people learn. And so, in our program at FSU we encourage all of our people—whether they are going to teach slow learners or talented students—to get a good background in audiovisual materials.

W. C. Meierhenry, Professor of Education, University of Nebraska

Q.–*Dr. Meierhenry, what is your feeling about the potential of educational devices?*

A.–Well, I believe, sir, that they're going to have a profound impact, really in several different ways. One of them is going to be directly on the youngsters themselves, because the conventional ways of giving information and presenting new ideas are simply not rapid enough for the changes that are taking place in materials these days. In motion pictures, TV, and even auto-instructional devices, we have a means of getting into the curriculum these newer concepts and materials for the youngsters. They desperately need these in the new and difficult times in which we live.

Q.–*You were saying something when we were talking just before the interview about the kind of effect you think this is going to have on teachers.*

A.–Yes; I think the problem is equally serious in the teaching profession. We have about 2,400,000 teachers in this country, and only a very small proportion of them go back to summer school to get new information, new techniques, and new methodology. As a consequence we have to find some other way of getting this new content to them. I believe that these teachers, working with these youngsters in the classroom are going to also upgrade themselves as the new content is worked into the curriculum through these devices.

Q.–*You have clearly spelled out the responsibility of the teacher; now what about the administrators and the laymen in this situation?*

A.–Well, let me start with the layman first of all, because as I travel around our own state and around the country generally, it has been my observation that the average layman is aware of the critical situation so far as education is concerned—its need to be different—and so he's ready to move. As I've indicated many times, the first motion picture projector was put in schools often by the PTA. The first TV sets were put in by the PTA, and my guess is that the first teaching machine will be put into many schools by the PTA. The lay public, which is daily up against these problems in the business and professional world, is aware of the necessity to use new technology. So I think we have an awareness and a desire on the part of the people. It's in the administrative structure and the classroom teacher where we seem in education to have a built-in lag for some reason—where the problem needs to be attacked very vigorously.

A. A. Lumsdaine, Professor of Education, UCLA

Q.–*Dr. Lumsdaine, what would you say about the potential of teaching devices?*

A.–I should say that the potential for the improvement of quality in education can hardly be overestimated. The various media—educational TV and some of the newer devices, such as teaching machines and self-tutoring programs for use in them—have a very major impact and a desirable one on the quality of education.

Q.–*You mentioned teaching machines. Tell us, what is your definition of a teaching machine?*

A.–Well, the term "teaching machine" is in a sense a misnomer. Current teaching machines don't in themselves teach. They are devices rather for presenting a carefully pre-programmed set of instructional materials to an individual student and allowing him to interact with the program of materials as he learns from it. I think that teaching machines, although they cover a

variety of devices at the present time, all have several characteristics in common. One I've already mentioned: They are devices for presenting a carefully preprogrammed instructional series, carefully worked out and tried out in advance. For another thing, they all allow the individual student to proceed at his own rate so that the faster student can learn from this program of materials as rapidly as his abilities permit; the slower student can take as long as he needs. For another thing, teaching machines, as we use the term, all require the student to respond almost continuously and appropriately, and finally they give him confirmation of each response he makes. He knows just where he stands at each point rather than having to wait for a long time to know whether he performed correctly.

Q.–*Is it your feeling, then, that teaching machines are one of the major contributions to the upgrading of quality in our learning process?*

A.–Yes. I should say that ultimately (in my own view—others might differ about this) I would say that the teaching machine would be one of the greatest, and very likely *the* greatest, contributions of the new media.

Charles Schuller, Director of the Audiovisual Center and Professor of Education at Michigan State University

Q.–*Dr. Schuller, what is your feeling about the potential of instructional devices to upgrade the quality of education?*

A.–I think the potential is extremely high. This is true for several reasons, one of which is that teaching devices are focusing attention on the curriculum and upon the methods by which this curriculum is brought into being—brought into fruition, I might say, in the mind of the student. As this is done, and as we face the tremendous explosion of knowledge itself and recognize the need to select those experiences that youngsters have in school, we must create the films, the programs for teaching and learning machines, and the textbooks themselves that can best do this. This in itself is a benefit. I think perhaps the most striking one is the fact that you simply learn better in other ways than simply by reading alone. This isn't to say that reading is not important—it is; extremely so.

Q.–*You said something interesting today when we were talking about this before, about the place of the teacher in terms of the use of programmed learning.*

A.–A teacher is the key person in planning what is to be taught and how it is to be taught, and in making use of these devices that can help her teach it better. Also, the teacher can be freed from a good deal of routine material in the classroom by the use of the tape recorder, the teaching machine, by film, and other devices. TV certainly plays an important role here. All of these things relieve the teacher of a certain amount of presentation.

Q.–*I detect a little bit in what you're saying that not only do we look forward to an upgrading of quality through the instructional devices, but also upgrading of of quality through the more efficient functioning of the teacher herself or himself in the classroom.*

A.–There was a study sometime back which indicated that almost half the teacher's time was taken up with routine matters most anybody could do without professional training. I think if you include also those things which are more-or-less routine presentations, the kind of material the teacher goes over, semester after semester, and which could just as well be on a film, on a TV program, or video tape, we could preserve two-thirds of the teacher's time for the creative side of teaching, and this cannot help but increase the quality.

Don Hunter, Director, Audiovisual Department, University of Oregon

Q.–*Don, one of your special interests is the use of tape in the instructional process. Tell us some of your ideas about this.*

A.–Yes, Mr. Cooper, I believe that the potential of tape for education has only begun to be realized. For instance, the teacher has individual students recite before the class and record this; then they play back later and compare their recitation with that of the other students, and what they think they did.

Q.–*That's one interesting use of it, Don. Is there not some other?*

A.–Many more. For instance, a teacher can prepare in advance a tape of drill material such as dictation in the later grades, or other types of drill material which would ordinarily take her time in the classroom. By pre-recording it she can have it ready for students to work at individually or in small groups while she does some of the more important things in the teaching field.

Q.–*Don, I believe, too, that you mentioned something that sounded very interesting to me. What about class projects and the potential of the exchange of tape?*

A.–That is something that I think has great possibilities. For instance, I learned of one teacher in junior high whose class as a group prepared a tape telling about their community and asking questions about a community in England. The tape was sent to England, where a class listened to it, learned something about a little spot in America, and made a tape of their own to send back to the Americans.

Robert deKieffer, Director, Audiovisual Instruction, University of Colorado

Q.–*Dr. deKieffer, how do you see instructional devices in the total education picture?*

A.–Instructional devices of all kinds are primarily designed to assist the teacher to do a better job of what she's already doing well.

Q.–*Do you see these devices as a contributive factor to what we frequently refer to as "creative teaching"?*

A.–Yes. This is a problem. Many people consider in-

Now, let's see . . . banquet, regional breakfasts, round-up. I should have pre-registered.

Won't you please try the Modified American Plan?

You mean they aren't in the Musketeer room? Well, try the Charlemagne . . . or the Normandy.

Look Edgar, how are we going to fix it so you and I can keep going steady after Convention?

There were special honors and awards. . . .

. . . and then there were the exhibits—137 of them!

I am all for holding the DAVI Convention in Hawaii.

I tell you, there's nothing like using AV aids in teaching. In Brazil . . .

CONVENTION Sidelights

Layout and captions by Virginia G. Sturwold

Anybody for study trips?

Canadian members in full force at regional breakfast.

Les girls . . .

Well, this is it. See you next year at Kansas City.

structional devices as taking away from the teacher her creativity. In my estimation these are only tools—more or less like a carpenter who must have tools to construct a house. A teacher must have tools with which to communicate ideas, and through these tools she will have opportunity to be more creative and to begin really looking at the individual student.

Q.–*Now, of course, instructional devices find their maximum potential when we think in terms of mass education. Does mass education really cut into the creative aspect of teaching?*

A.–Yes. I would say that creative teaching is the understanding of each individual student. Through the use of technology in automotive devices such as teaching machines, TV, and the like, we are giving a better education to a larger number of students, and individualizing students' activities. Audiovisual materials of all sorts are also freeing the teacher of the drudgery that used to take up so much of her time and keep her from giving individualized attention.

Q.–*I think that you referred to mass education as being really sort of a two-pronged process—one is mass and the other is individualized. I wish you'd tell us a little bit about that.*

A.–This is true. In essence, we have a terrific number of students approaching our schools every day. We must educate them in the best way we can; but by the same token we cannot forget the individual student. As a result, what we must do is to use the automatic devices, the technology that we have in this country, to allow the individual student to go as far as his potential will allow him to go. Through this device then—through these devices, I should say—we are able to individualize instruction and yet improve the instruction to a large group of students in our classrooms.

Kenneth McIntyre, Director of the Audiovisual Department, University of North Carolina

Q.–*Ken, what can you say about the potentiality of audiovisual devices?*

A.–Well, Bernarr, I think technological advances in television and programmed materials indirectly related to teaching machines are going to provide us with the opportunity to remove some of the mechanical barriers to distribution of materials—make more of them available to the classroom. Insofar as programmed materials are concerned, they will make it possible for the student to proceed at his own individual capacity with less instruction on the part of the teacher. I was particularly impressed with the octagonal classroom being readied for use at Miami University.

Q.–*Tell us a little bit about this, Ken. How did you see the potential of this?*

A.–We went out Monday as one of the study trips of the conference and had a tour of the building. This building has, of course, eight octagonal classrooms—it's a circular building—and each classroom has a 10x10″ rear projection screen at the rear of the lecture platform and it has a remote control panel built into the podium which controls six individual projectors. For each classroom there is a TV projector, and a 16mm motion picture projector, and slide projectors. The instructor can control each project from the podium just by pushing a button, and he can program a whole two-hour program of TV materials.

Q.–*What you say, Ken, indicates to me too that one thing that attracted you about this board was the possibility of selectivity of materials as well.*

A.–Right. The instructor can select an individual slide or he can select a motion picture. Of course, you have to have the material programmed, and the instructor has to provide this initiative prior to presentation to his class or his students.

Q.–*Then actually this does not eliminate the teacher from the teaching process at all, does it?*

A.–Oh, absolutely not; it just helps to remove some of the barriers to the use of these materials, barriers that have been real bottlenecks for many years.

Rudy Bretz, Head, Office of Television, UCLA

Q.–*I wonder, Mr. Bretz, what your feeling is about the impact of instructional devices on education?*

A.–We're getting something quite new—the programmed audiovisual device—where it's not the machine actually, but the program of the machine which is important. This, I think, is going to have very far-reaching effect, not only on instruction, but also on all the other means that we have been using for instruction—for example, the textbook.

Q.–*Do I detect, then, that one of the things you're indicating, is that these so-called new program materials are really nothing but our old textbook in disguise?*

A.–Well, programmed learning involves laying out the plan of how a thing is to be taught very carefully, step by step, and this is, in essence, what a man does or should do when he writes a textbook. The only difference is that in most of the programmed learning devices a system is devised so that the student is constantly active. There are certain methods by which he is sent back if he missed something, and sent ahead faster if he understands it more rapidly, etc., so he can proceed at his own pace. All this can be done as well in a book. As a matter of fact, some of the programs are in book form, and I think the essential purpose of all this—the impact of all this—is to give us a chance to take an entirely new look at the production of a book, at how the teaching aspects of a book are conceived. The textbook writer of the future is going to be very much influenced by the programmer of today who is working with the teaching-machine programmed-learning principle. The book will be a much more effective teaching device in the future than it has been in the

past. I think this is going to be the basic impact of instructional devices.

Wanda Mitchell, Director, TV Project, Evanston Township High School

Q.–*Wanda, tell us, what are your feelings about instructional devices?*

A.–Why, I'd have to answer that question from the standpoint of a classroom teacher. That is the limit of my experience in this field. Since I have been thrust into using these technological devices, I do have a reaction to them. One—the first one—of course, is a terrifying one. Having taught for several years, I came through college and my teacher training during the time we were not taught to use these things—these devices, as you call them, and sometimes I feel that's exactly what they are—"vices." After working with them for a while, I have discovered that they do have much to offer, and that I not only *must* learn how to use them if I'm going to meet the needs that we have in our school, and I'm sure are common to other schools, but I *want* to learn how. There are some special things that we use that are part of all this: We sort of take for granted that the IBM will help with report cards, so that gradually those of us who are older and less well trained with these new technological devices have a chance to become oriented to them.

Q.–*You know what I wish you'd do, Wanda? Pinpoint.*

A.–Well, of course, I have to plan much more carefully. I could always rely on the fact that I could go on talking whether I knew anything or not, and I could always assign children to read chapters and do things in case of an emergency, but you simply can't do that when you're on TV. You simply can't do it with some of these other things. I found, though, that they help—I mean just such a simple thing as having a microphone, which is another device for saving my voice when I'm working with a large group. Certainly some of the things have saved me hours of time in drill. I used to always dictate words and pronunciation exercises, and wear myself out eight periods a day doing this, and now I can dictate the words once, and the tape recorder can take over for me. These are examples of experiences that show me that technology has something that actually helps me as well as terrifies me.

Thomas D. Bailey, State Superintendent of Public Instruction, Florida

Q.–*Mr. Bailey, how do instructional devices relate to the entire field of education?*

A.–Well sir, I feel that in times such as we're living in today, it is absolutely essential that we utilize all of these services, first of all to bring to the attention of all of our students contemporary happenings of the day which are lost in our textbook area. And secondly, I think it is a way to more effectively teach. By reason of lending emphasis to these ideas we want to get across to youngsters, through motivation, and more effective teaching in all areas.

Q.–*What ought we to do immediately to start using these devices?*

A.–Well, of course the first thing we have to do is get to our teachers, because they're the key to this whole problem. I would suggest two things: First of all, I think that we must recognize the fact that emphasis in the future is probably going to be on learning rather than on teaching, and the teacher who does not have the ability to manage a classroom situation which is conducive to optimum learning on the part of her students is really going to be obsolete. Therefore, I think that we would first of all set up a pilot workshop which would bring into it members of the faculties of our teacher training institutions so that they might become thoroughly acquainted with the possibility of all of these aids and utilize them in the preparation of teachers at their respective institutions. And also for the teachers in the field who are coming back to summer school for the extension of certificates or for upgrading in their own profession. I think these are essential. We've got to find a way to expeditiously get to our teachers immediately and get them thoroughly acquainted with the possibilities and potentialities of audiovisual aids of all kinds along with educational TV.

Q.–*You know that always when we start these training programs, Superintendent Bailey, the first thing that enters into the picture is economics. Where does our economic aid come from?*

A.–Well, of course, I would be hopeful that we might get some state aid, but that is rather difficult at the time. Therefore I am thinking in terms of using this workshop as a sort of pilot situation and soliciting help through NDEA. I think NDEA funds would be most appropriately used in providing this kind of training program, because as states move into this we could utilize the experiences that each state has. States might profit from this type of exchange.

William H. King, State Coordinator of Audiovisual Instruction for New Jersey

Q.–*Mr. King what are your thoughts about the potential of instructional devices.*

A.–I think your question is one that educators are asking all over the country, because I think that more than ever before parents, educators, and even the boys and girls themselves are becoming very much concerned about what we mean by quality education. I think that a great many people are recognizing that the devices used in the past, as they were used in the past, didn't do the entire job. I think we are starting to look for new tools and new ways of using some of the older tools.

Q.–*When we were preparing for this interview, Mr. King, you said something interesting about the responsibility of the educator to accept these new tools and use them.*

A.–There's been an old story most of you have heard, that it takes 50 years for an educational idea to be

accepted by educators, and I think if anything is happening that is really significant, it is that we are cutting down this time lag.

Q.–*If we were to consider the whole broad area of the use of tools to increase quality of instruction, this word "quality" becomes rather important. Now, how do you feel about the meaning of quality?*

A.–I think the quality has to be determined by each state, and in some cases by each community. I think quality depends on the teachers, on the building, on the facilities, and the attitude of the general public. I think that each community and each parent is quite concerned that his boy and girl get the best possible education, and my concern, of course, as an audiovisual person, is that all of the so-called tools of the trade be known and effectively used. I think in that way we can help to provide quality education.

James McPherson, Program Analysis Officer, Educational Media Branch, U. S. Office of Education

Q.–*Dr. McPherson, what do you think of the potential of educational devices?*

A.–Well, I think they have a great potential for upgrading both the quality and the quantity of education, and during the next few years we face the absolute certainty that our college enrollments will double and our public school enrollments will increase greatly. We have to teach more to more people in less time, and teach it better. I feel that these media and their specific use for particular learning situations will help us to do that.

Q.–*Where do you feel the primary responsibility lies to begin to really investigate all of the potentials of these media?*

A.–I feel that the responsibility is a joint one—that there is no one group that's going to be able to give us the answers. We are in coming years going to turn more toward the development of systems of instruction, and by that I do not mean what somebody has called "rigid systems"—I mean systems in which we plan as much flexibility as may be needed for a learning problem. I mean systems which draw on the abilities of people who are content-area specialists, who know what should be taught in various subject-matter fields, those who are teaching specialists, who work with students and know their particular requirements, those who are educational psychologists, and those who are sociologists. Even those who are anthropologists, and scientists, will join forces in designing these systems of instruction.

Q.–*You've left out one crucial person in this array of people. Do you feel that the layman, the man who is not directly involved in the total educational process—do you feel he has a responsibility here too?*

A.–I feel that he does. Certainly this thing cannot go unless there's general public support of it as a way of improving schools. Schools are directly responsive to the way people feel about them. Support in the community can make or break a movement, but I feel that when we have the evidence that we are doing a better job of instruction the lay person who is well informed and intelligent will say this is the kind of thing we want for our youngsters.

Miss Jean Eicks, Supervisor of Scripts, Board of Education of the City of New York

Q.–*Jean, I wonder if you'd tell us a little bit about how you feel about the potentiality of instructional devices.*

A.–Well of course my chief interest, naturally, is in radio and TV, because those are the two areas covered by our broadcast services. Certainly we can help to upgrade instruction in the area of science in the elementary schools through radio. We've proved it. For 10 years we've had a program on the air called *Science at Our Door*. Now this program was devised because the average elementary school teacher simply isn't a science teacher as such. She needs something that can help her conduct her lesson in the classroom. She needs something that she can use as a springboard, something that helps her to teach a better lesson.

Q.–*In other words, then, radio is one of the special devices that are of interest to you. But Jean, you were telling me something interesting about a plan you have for coupling two devices. Tell us a little about it.*

A.–You know, a great many people in educational radio thought that radio would just disappear when educational TV came into being. Well, we found a way to combine them in the best interests of the teacher and the pupil. Next year we are going to produce a radio program which is at present without a name, but is an elementary school program, which will consist of dramatizations in which we will emphasize the humanities in science—the story about the man behind the invention, the story of the moment of invention. We will correlate this with the program on TV, because we have come to believe now that the TV medium is better than educational radio for actual experimentation.

Q.–*But you feel, I gather, that it is more limited—that is, TV is more limited in some respects than is radio?*

A.–Of course it is. In the first place there are certain commercial limitations. We simply can't produce dramas, at least we can't produce dramas in New York on our educational TV series, and we *can* do that on our own Board of Education radio station. We still feel that when it comes to something imaginative, when it comes to sparking the imagination of the student, the drama is a wonderful device. It's the device of enrichment, of course.

Hartford Gunn, General Manager of WGBH-FM and TV, Boston

Q.–*Mr. Gunn, as manager of one of the oldest TV stations in the United States, what is your feeling about the potential of instructional devices?*

A.–It seems to me, Bernarr, that the possibilities in this field are almost unlimited. I was particularly interested

to walk around the exhibit section last night and to see the various new devices that are becoming available in the audiovisual field, but particularly to note that these new devices, instead of putting the emphasis on technical aspects of audiovisual presentations, are now beginning to concern themselves directly with curriculum and with content matters. I think this is a trend in the proper direction—it's one that those of us in educational radio and TV have felt has been needed for some time.

Q.–*Do you feel that these new instructional devices will bring about considerable change? For example, for the leader—the potential leadership group of the nation—you know, the accelerated student, the top 1 to 3 percent?*

A.–Very definitely. There's no question but there's a problem of expense, the costliness of providing education for the relatively few students in these higher categories. It's an area where programmed instruction, whether it be by teaching machine or by films or records, or in the form of educational TV or radio—all of these devices are designed, I think, to reach these students directly and at minimum cost.

Q.–*You mentioned earlier, too, that there was an interchange between the people who use the various audiovisual devices, such as your film makers, with radio and TV.*

A.–Yes. There's one thing I feel is particularly exciting, one in the field of languages, where a great textbook publisher, D. C. Heath & Co., has joined with the great motion picture producer, Louis deRochemont Associates, to form Heath-deRochemont to produce language films—initially French, but I understand that their plans now extend to Spanish, to Chinese, and to Russian. This certainly is a very useful development, because it will bring together a multi-media approach. It is not just the use of radio and TV but also with this will come films, and appropriate printed manuals, instruction booklets, etc., and records, so that you have a total instructional system.

Elton Hocking, Head, Modern Languages Department, Purdue University

Q.–*Dr. Hocking, what is your feeling about the impact of educational devices on education in the U.S.?*

A.–I think it's one of the most significant developments that we've had in a long time, and this has been reflected by the National Defense Education Act passed just a couple of years ago.

Q.–*Do you feel that NDEA has given the kind of economic aid that could be of most significant aid in the use of instructional devices?*

A.–It has given us a very fine start, and it does appear now that it's going to be extended by Congress to help our country make itself felt and appreciated more widely throughout the world.

Q.–*How do you feel that the NDEA has affected the average citizen, if indeed it has affected him?*

A.–I think perhaps it has affected him without his knowing it; or, to put it better, it has affected his children in a great many schools.

Q.–*When a child attends the elementary school, the average elementary school in the U.S. now, how do you see this as being a different kind of learning situation from that which existed, let us say, 15 or 20 years ago?*

A.–Well, 15 or 20 years ago it was pretty much a matter of reading out of a book, looking up what it said and then repeating it back to the teacher. Today it has changed a good deal, because the child is learning to see and hear and absorb the material he comes in contact with, not just soaking up a book and giving it back.

Q.–*Do you feel that the NDEA has indeed helped insofar as taking into account individual differences? We all know some children are slow learners, some are more accelerated. What is your feeling about this?*

A.–With the audiovisual devices that we have today, we are able to accommodate our teaching to individual differences, to the fast child, the slow child. And indeed even outside of school, when we can send homework with him on little discs that he can play at home and work at his own speed.

Mme. Anne Slack, Teacher of French by TV Gordon Mace, President, Heath-deRochemont Corporation

Q.–*Anne, how have you seen the use of TV grow at the elementary level since you've come to teach in the United States?*

A.–Well, I feel a spectacular growth in the interest of language learning in the elementary school. I've seen the children absolutely fascinated in learning the foreign language. I've seen teachers and other educators discovering that this is something that can be done on the elementary level and can be done very well. I've seen the parents become completely involved. Because the programs are on open circuit, therefore anyone with TV can turn them on. Parents are happy to know what goes on in the classroom and at the same time are learning French so that they can converse with their children.

Q.–*Gordon, you have seen this grow too, as the producer of the materials and indeed of the entire course on film. What do you foresee as the distinct possibility in the future, particularly in relation to language learning?*

A.–Well, the most interesting thing to me has been the example of last year's experience. We were on 12 stations in America, and this year we'll be on over 30. There wasn't a single drop-out. I think this is an indication of the direction.

Q.–*And by drop-out, you mean not a single station of the 12 has failed to renew for the second year of French?*

A.–That is correct. They are re-running the first year, but are also adopting the second year.

Q.–*Now, in the observation of what is going on, do you feel—or does Anne feel—that this is meant in any way*

as a replacement for classroom teachers? What is happening, really?

A.–(Mme. Slack) No, the classroom teacher continues to be the most important element, because she is really the person who is going to stimulate the interest of the children, who is going to create the favorable atmosphere, whether you teach French by TV, by films, or whether there is a specialist coming to the classroom to teach it. The classroom teacher in the elementary school is the person who is going to make the children receptive to anything that's taught there. If she's interested in the French program, she's going to make the children *want* to learn French. If she's not, she's going to turn on the TV at the last minute, the set won't be warmed up, and the children will have a pitiful experience.

Q.–*And therefore, Gordon, they must do one additional thing, must they not, in preparing for using these things?*

A.–Well, the whole program—the success of it—depends, as Anne says, on the preparation. We've designed this course so there are a teacher's guide and supplementary materials that will reinforce and complement the work that Anne does—and that the teacher does—with these materials.

Gerald Winfield, International Cooperation Administration

Q.–*Dr. Winfield, tell us, from your experience, what do you think about the potential of instructional media?*

A.–I'm particularly interested in the application of teaching devices to the upgrading of education in isolated rural schools all over the world, in those countries which are just now emerging into rapid development. We in ICA operate in about 65 countries that have an aggregate population of 1,250,000,000. Among those people there are 313 million who are in the 5 to 14-year age group. Of this number only 92 million or 29 percent are in school. There are 221 million children in the primary age group now who are not in school.

Q.–*I gather from what you say, Dr. Winfield, that you feel that if instructional devices are to be used and used effectively, that we really have an international responsibility to this group.*

A.–Well, the problem is simply this: That the Communist world is doing about twice as well with this factor as we are; that is, in Communist China, with a basic population of about 600 million people, they have 94 million children in school, or 59 percent of their age group. If we don't succeed in some way in bringing basic primary education on a widening basis to these other people; it's not going to be too long before they start turning to the Communists for help in solving their education problems.

Q.–*I understand, too, that you have a plan in mind which is a very economically feasible one for using an instructional device to raise this level of education. Tell us a little bit about this, if you will.*

A.–Two of our men in Afghanistan have put together a sunlight filmstrip projector. This instrument uses a 39-cent mirror, a 25-cent lens, and a dollar's worth of plastic screen material. When you take them and string them together with a wooden shadow box which can be made almost anywhere in the world, you get a piece of equipment out of which you can get an image as big and as bright as a TV screen. Around this thing we are building some of these new programmed learning systems with which we think it's going to be possible to help rural teachers teach the teachers as they teach children, and upgrade the quality of the education they can deliver, and do it at a very low cost.

Mrs. Ruby Niebauer, Research Assistant, University of Wisconsin

Q.–*Mrs. Niebauer, as the producer of prize-winning educational films, tell us something about the use of 16mm film for upgrading the total educational content, as you see it.*

A.–I realize, and I think everyone does, that the 16mm film has a great place in the educational program today. For one thing it speeds up learning, it's a great time factor. We can see many things in 10 minutes which perhaps would take four or five weeks for the average child to learn. Secondly, the enlarged picture helps the poor-vision child in the back row, especially when motion is involved. Thirdly, it produces sound, which will help all of the hard-of-hearing students, and many times teachers forget to offer explanations to the child during a demonstration, for instance. The slow and the fast learner both learn through the 16mm film. It also saves the teacher's energy, and the child that is absent may catch up very fast through the 16mm film. Films will never replace the teacher, but they will always be a helping, extended hand in her crowded classroom schedule.

Q.–*You mentioned something rather interesting. You said that films help to speed up learning. Why speed up learning? Why do you feel this is a necessity in our educational process?*

A.–I feel today that we have more of a complex world than we did 50 years ago. We have greater developments in science, and more competition. We must offer a broader curriculum in our schools for the child to develop to his full potential, to find out what his abilities are, to explore, to invent, and to create.

Q.–*I wonder, too, if we can't speak just a little bit about something which you mentioned earlier—arts and crafts in terms of the total personality of the student?*

A.–Well, I believe everyone is born with some creative ability, and I think that, as educators, it is our job to find the outlets and help the student find himself in his creative ability. We have to consider his emotional, his social, his mental, his physical, his moral, and his spiritual growth through all creative outlets, and they must all be offered, because students will vary—some will be good in some areas and some in others. For this reason we must offer a very rich curriculum so that we provide for the full potential of each student.

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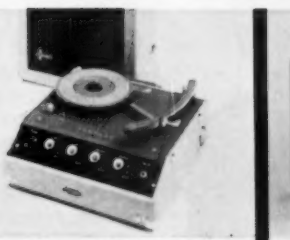

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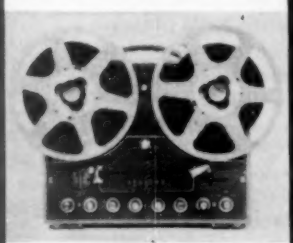

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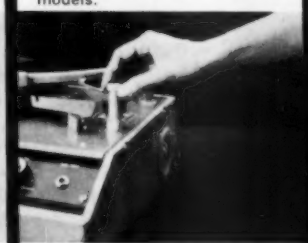

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Newcomb Pronunciator, an audio-active language trainer, puts most essential accelerated learning elements into a portable package.

Report to the Profession

"STAGGERING EVIDENCE for the new frontier in educational technology" (in the words of Yvonne Lanagan) was loosed upon Convention delegates Thursday afternoon when five panel members gave a summary of some of the current projects and studies in the educational media field.

At Hunter College, for instance, they are exploring the use of closed-circuit television as an "eavesdropping" medium for the benefit of teachers in training. This is an attempt to obviate the obtrusiveness which makes it difficult for the "practice teacher" to observe teaching-learning situations as they really exist.

Panel members Finn (back row), Lanagan and Schueler pose with Chairman Wesley Meierhenry (also back row).

Student teachers and their college supervisors will watch the classroom teacher's performance on television. At no time will they be present in the classroom. Direct viewing will be supplemented by kinescopes. Herbert Schueler, director of teacher education at Hunter College, showed slides of the specialized equipment needed to carry out the experiment—special cameras that can zoom unobtrusively, equipment that will confine televising activities to the control room, wireless mikes with which the classroom teacher communicates directly with the control room, and equipment for kinescope recording.

Dr. Schueler explained that a number of "by-products" were anticipated, among them, (1) A chance to determine to what extent the development of a teacher can be enhanced by seeing herself on film; (2) The possibility of accumulating a record (via kinescope) of master teaching performances; (3) Opportunities through group viewing to reach a consensus of what constitutes good teaching; (4) Plans for developing a library of techniques for teaching atypical children; and (5) The possibility of making research studies on behavior in teaching-learning situations. (With this medium, Dr. Schueler said, it is possible to observe characteristics of teachers never seen before. For instance, hostile attitudes were detected among a "distressingly large" number of teachers.)

Dr. Schueler admitted that there were some dangers inherent in the "eavesdropping" technique. One safeguard against going overboard, he said, is that the teacher knows what is going on. She has first veto power over kinescopes.

Visual Aids Survey

Representing the Bureau of Social Science Research in Washington, D. C., Eleanor Godfrey reported on the Bureau's current survey of visual aids in public schools. This is a far-reaching attempt to collect data on audiovisual programs throughout the country—from one-room schools to the largest systems in New York City. A second purpose is to assess the factors influencing use or non-use.

The first phase (for which returns are already in) will compare statistics from the "exploding districts" with those from more stable communities. The purpose, Dr. Godfrey said, is to learn whether or not the necessity for building classrooms precludes funds for other parts of the program. A second phase will take questionnaires into the school districts to determine the attitudes of teachers, superintendents, and principals. Patterns of use as well as attitudes toward use and dis-use will be an objective of this phase. In the third phase the survey will concentrate on personal interviews in a smaller group of school districts, Dr. Godfrey said.

Technology Study

James Finn reported on the NEA Technological Development Project of which he is director and Lee Campion, associate director. Financed by NDEA (Title VII, Part B) the project was begun last fall in an attempt to assess the impact of the technological revolution on education and to consider what steps education can take to cope with it profitably.

Hardware is only a small part of this study which will also go into instructional systems and organizational concepts, Dr. Finn said. The project directors are working with industry, military installations, and with other educational groups such as the National Science Foundation in an effort to learn not only about present programs but also plans for the future. Anticipated publications, Dr. Finn said, are a comprehensive report in the form of a hard-bound volume, a series of monographs including at least one on equipment and one dealing with definition and terminology.

Teacher Education

Several of the projects reported in this session had already been covered in AUDIOVISUAL INSTRUCTION, as, for instance, recent activities of the American Association of Colleges for Teacher Education. These as well as the objectives and purposes of the Associated Organizations for Teacher Education were presented by Edward Pomeroy, executive secretary of AACTE. For this same information see pages 117-18 of the March issue of AVI.

Charles Schuller reported on the current projects being undertaken by the Educational Media Council. (See page 217 of the September 1960 issue of AVI for background information on the Council.) The Council's two main projects to date are a national directory of all educational media followed by annual supplements; and an information dissemination program. The latter is expected to embrace five publications on (1) the use of the teaching media; (2) setting up the media program; (3) school design; (4) an annotated bibliography of the literature in this area; and (5) a visitation guide.

Denouement

A fitting capstone to this "staggering" recital were the remarks of Yvonne Lanagan, English teacher, Webster Groves, Missouri, who gently reminded panel and audience that teachers are still human beings and students, "sentient" creatures.

How natural can a teacher be in a "peek and probe" atmosphere? Mrs. Lanagan asked, referring to the Hunter College experiment. How many good teachers are going to stay under these working conditions? She commented on the "hostility" picked up by the TV cameras and wondered if we may not be reaching too hard for the "pepsodent smile" in education. Perhaps a little "hardness and acerbity" are called for.

Contemplating the volume of survey findings pouring forth, Mrs. Lanagan warned against losing sight of the one significant statement amongst dozens of routine ones. Be sure that statement is properly weighed. Don't lose sight either of the attitudes and emotions that don't show up in filled-out blanks, Mrs. Lanagan said. She also expressed concern lest we equate the use of media in industry and military training too closely with its use in the classroom.

Mrs. Lanagan questioned the extensive usefulness of teaching machines. There are so many answers you can't put in the either-or category, she said, because they are "layered with many connotations and implications."

"It would be interesting to know," Mrs. Lanagan mused in conclusion, "if the day will ever come when a former student returning for a visit will point to his old teacher and cry, 'There she is! Her wheels have slowed down, her gears are a little rusty, but her antennae are in place—they stand up proudly—and she's still got all her buttons.'"

CCTV for Beginners

With so many stars on the program, schedules were mighty tight at Miami. Here, Wanda Mitchell concludes her remarks, watch in hand.

THREE EXPERIENCED TV HANDS—Phil Lewis, Bob Reed, and Wanda Mitchell—formed a panel Thursday afternoon to discuss closed-circuit TV for the benefit of persons needing basic information. Armand Hunter of Michigan State University presided.

Using a series of slides, Dr. Lewis presented an overview of the basic equipment necessary for programming closed-circuit television in schools. He pointed out that programs may originate from a central CCTV studio or from any other part of the school plant if the appropriate system is considered. Receiving proper quality reception in the classroom was also dealt with as an initial problem.

Dr. Lewis' presentation covered equipment ranging from materials related to the use of simplified industrial type cameras (vidicons) to very elaborate studio units (image orthicons). It also included a brief analysis of what equipment and system is necessary in order to receive closed-circuit and/or broadcast programs in the schools. Dr. Lewis emphasized the need for achieving quality video and audio reproduction.

Bob Reed, production director for WHA-TV, University of Wisconsin, elaborated on direction and production of TV programs. He indicated that there is no real gap between production techniques for closed-circuit and broadcast television. In producing a television program, just as in a good lesson plan, it is necessary to establish objectives. Once objectives have been decided upon, methods of reaching them must be determined. These methods will incorporate a blending of sight and sound. Television, he emphasized, is a visual medium. To achieve effectiveness in a visual medium requires an understanding of the many techniques that can be used and the ways they can enhance the production of the program.

In concluding his remarks, Mr. Reed indicated that educational television programs, to be pointed and polished, require superior teaching.

Wanda Mitchell, whose topic was classroom utilization, emphasized the fact that both teachers and students must first be taught how to use educational television—just as students must be taught how to listen to good music and to read. For teachers this is important, Miss Mitchell said, because the teacher's purpose in using TV will determine how she handles its utilization in the classroom. Miss Mitchell stressed the importance of making the TV program optional. The teacher must be in a position to turn off the set if the telecast does not meet the needs of the class, she said. The teacher is the key factor in the success or failure of television.—LEONARD B. AMBOS, THE UNIVERSITY OF THE STATE OF NEW YORK.

Teaching Machines Permeate Convention Sessions

Eugene Galanter

WHEN COMPARED to former years, teaching machine coverage at the Miami Convention was marked in several ways: increased sophistication of the discussions; permeation to some extent into nearly every major convention session; a developing recognition of AV's role in the teaching machine field; and, an impressive delegation of teaching machine authorities —Galanter, Komoski, Porter, Barlow, Fry, Crowder, Silberman, Lumsdaine, and others.

A newcomer to DAVI though a veteran interpreter of the teaching machine field, Eugene Galanter, associate professor of psychology at the University of Pennsylvania, started off the panel discussion in the second session by warning audiovisualists of the "formidable role" in store for them. As evaluators of the materials that will shape the curricula of the teaching materials era, AV technicians will be called upon to make profound curricular decisions. As teacher time is cut by one third and the tempo of learning stepped up, audiovisualists will need to familiarize themselves with greater quantities of more difficult subject matter. As purveyors of instructional materials they will in fact have a hand in program design and will need the knowledge of statisticians to handle such things as "error rate," and "rejection time."

S-R Theory Abandoned

Galanter gave some of the basic theory behind machine teaching by explaining that it is not based on the stimulus response theory which looks on learning as a sort of sequential pouring in of information that is stored at random in the child's brain. Machine teaching is based on a hierarchical storage scheme which makes it important that instruction supplies the student with some kind of routing system. As a Skinnerian, Galanter stressed imput of information in small doses, and program construction to insure low error rate. He warned his audience not to be concerned over the immense number of programs and machines on the market. Try them out, he said, and chuck those that don't stand up. But do it yourself and don't advertise it. Bad programs don't alter the fact that the concept is sound.

Galanter was followed by Harry F. Silberman, the essence of whose paper on the computer system was reported by Silberman and John Coulson in *AV Communication Review*, Vol. 9, No. 1, January-February, 1961.

Norman Crowder appeared at the microphone to defend his non-Skinnerian approach known variously as the "scrambled book," "branching," and "intrinsic" type of programming. Crowder doesn't believe that students learn from responding only. The student, he thinks, must be given a chance to be wrong. The advantage of multiple choice in his view is that it permits the programmer to write materials containing error and also provides an easy way to check whether or not learning has taken place. [The Auto-Tutor based on Crowder's intrinsic programming was given visibility in the Armed Forces Section of the Convention when Lt. Col. Byron H. Gilmore and Lt. Eugene Benson reported on the experiment at Keesler Air Force Base.]

Kenneth Komoski discussed the importance of the nonverbal approach in teaching difficult conceptual structures where the student, rather than really comprehending, is in danger of falling into verbal imitation. (Mathematics and philosophy might be examples of subject matter.) Komoski also gave an illustration of teaching the meaning of "texture" with a minimum of verbalization. Komoski began his remarks with a brief description of the Center for Programed Instruction in New York City, of which he is president. (See the April issue of AVI for a detailed report.)

As summarizer for the panel, Lumsdaine said the significance of machine teaching is found in the fact that it is an individualized form of instruction and that it makes the student an active participant and judge of the program. The act of programming undertakes to make the learning process so explicit that it becomes unusually amenable to scientific evaluation, thus opening the door to continuous improvement of instruction. Machine teaching is also significant, Lumsdaine said, because it encourages rapprochement between educator and experimental psychologist.

Religious educators in session at the Convention heard about machine teaching and programmed learning from John A. Barlow who explained some of the experiments at Earlham College, among them, teaching the Old Testament through programmed learning. Barlow stressed interaction of student and material at every step and emphasized constant revision of the program to insure results. You don't correct the student, Barlow reiterated, you correct the program. He in fact suggested that textbook writers and film-makers could well take their cue from programmers in this respect. There is no reason why sections of either book or film could not be tested with samples of students, and, if need be, revised accordingly.

In answer to a question about the effectiveness of the technique for changing attitudes, Barlow cited an example where a student was able to free herself of an emotional block by going through a programmed text. So much has been learned about teaching and learning by the experimenters at Earlham, Barlow said, that if teaching machines were discontinued tomorrow the work would not be wasted. This aspect of machine teaching was also reflected in a comment by Komoski who quoted a fourth-grade teacher as saying, "Programming not only helps kids learn but helps teachers learn how kids learn."

Impact of Education on the Mass Media (or Vice Versa)

Excerpts from Kenneth G. Bartlett's address to a concurrent session Thursday afternoon. Dr. Bartlett is vice president of Syracuse University.

THE TITLE SUGGESTED for this session last February was "The Impact of Mass Media as an Educational Force." I accepted the invitation, not comprehending the troubles that lay ahead. To assemble the basic materials, I assigned a full-time research specialist with extensive newspaper background.

After study, he reported that there were few scholars writing about "the press" (Frank, Gerbner, Lazarsfeld, Osgood, Smyth, Schramm, Seldes were exceptions) and that those who did write tended to confine their research to a single medium. He found, too, that their observations more frequently than not referred to "influence" as related to social or ethical problems and not to education. As an experienced newspaperman he said he resented the effort to measure his profession by an educational yardstick. It was not a school concerned with the future; it was a mirror reflecting the present. On this issue, he asked to be relieved of the assignment.

Thus, up to two weeks ago this was a session with a topic and a confused speaker. At that point, I did what educators traditionally do when they don't know the answer. I changed the subject. The revised topic, "Impact of Education Upon Mass Media," simply raises the old question of how education at all levels might favorably influence the mass media which seem increasingly to determine the course of history. To those who like to be forewarned about what is coming: I shall suggest that more universities encourage, through academic programs and budget, the development of the scholar-generalist in mass communication. He would be to the field of communication what the musicologist and art historian are to music and art.

Not long ago in a round of conferences with distinguished publishers, network executives and advertising agency presidents, I asked each how education might contribute more to their businesses. Almost without exception they replied, "Study our media and tell us about it. We can summon the skills, but we cannot find enough men with a sense of direction and a concept of social and business purpose."

The head of a major network suggested that we forget programming and facilities and invest all of our time on evaluation. If I were to oversimplify his comment, it would be that we make a greater effort to grow scholars prepared to judge and report what is being done.

My first observation is that there are too many specialists in communications who confine their teaching to skills and too few who relate one media to another and speak out in judgment upon the net effect of all.

My second observation is that the generalist in communication, to be truly effective, must have a feeling for, and the sympathy of, the professional practitioner. As a matter of fact, almost every newspaper and advertising man and broadcaster sees his world differently from the professor. We labor from a different premise.

Profit and the Press

Most media must have circulation to make a profit. To achieve circulation, the newspaper or station will do things an educator would never do. Too often those who criticize do not sense the need for profit, the speed with which mass media must work, the need to angle stories to acquire readers, the sharp and cruel character of competition, and the tradition to be first. Without a feeling or understanding for such practices, there is no empathy. We are told that this is what America lacks in its foreign relations —a feeling for other cultures. I add that too many professors lack it in their relationship with the professional press.

If the communications generalist doesn't have it, he will find recognition difficult. Often, the practices he deplores are the result of the philosophy that a free press can exist on the basis of profit and service. The only alternative to such a premise is a subsidized press. As between these choices, most of us elect the former.

The impact of education upon mass media should not be confined to the training of personnel, to the adaptation of certain techniques, or to the use by the school of the media themselves. These are worthy but they are not enough.

Education itself should become the social conscience of a free press. No other group in our society is so well equipped to speak out on its shortcomings. The scholar communicator must increasingly be identified as the critic of the free press. It he were well enough prepared, I am convinced that even mass media, after a reasonable time, would welcome him into the family.

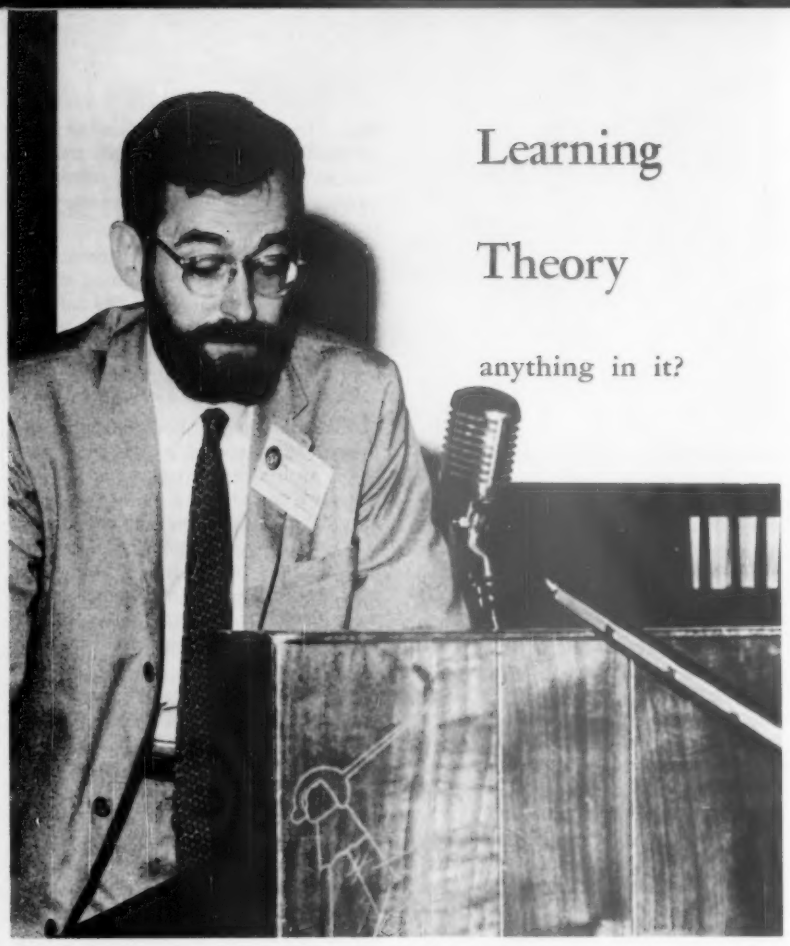
To assume this added responsibility, he will, I believe, need to develop his role through the avenue of research. Mere observation will not be enough. He must bring something new and fresh to earn respect. If only 5 percent of funds now allocated for science research were made available to the scholar communicator, he would have the means to embark on a broad program. If this were done, the long recognized gap between science and social science would be reduced.

If we were able to give this new type of scholar the prestige required we would, in effect, have established a new "check and balance" system for mass media. Newspapers and broadcasting stations would continue to act freely and responsively—even as they do now. The scholar would take the pulse periodically. The consumer would benefit from the evaluation and criticism.

The communications generalist, with a feeling for the journalistic profession, can become the conscience of a free press. The only issue is whether we want him in this role, and how soon we can develop enough of his kind to make an impression. This is one answer to the question of how education can make a greater impact upon the mass media.

George Gerbner, who served as commentator for this session, remarked that he saw no need for the title change, since, in his opinion, the functions of education and mass media are inseparably intertwined. The challenge to both, Dr. Gerbner said, is to recognize the responsibilities of the mass media to serve as the conscience of a free culture.

Learning Theory anything in it?



Douglas Porter telling educators how to evaluate a psychologist's advice

CAN THE EDUCATOR LEARN from the learning psychologist? No, says Douglas Porter, education instructor at Harvard. Current learning theory is not based upon the study of how to teach, but upon "how animals solve problems on their own hook." Current learning theory is concerned with explaining behavior—not changing it.

In an imaginative presentation, Mr. Porter (1) warned his audience to be skeptical of advice from learning psychologists; (2) demonstrated by slides how psychologists learn from animal behavior; and (3) proceeded to do what he denied to the psychologists—give advice on application of learning psychology.

Mr. Porter counselled educators to use these criteria in scrutinizing advice from learning psychologists:

- Is the advice real? If it is vague, addicted to jargon, and fails to connect with the world of deeds, avoid it.
- Does it suggest how to modify behavior, or does it consist solely of explanation? If the latter, beware.
- With what kind of rationale does the psychologist support his advice? If he cannot explain it in terms you understand, he may not understand it himself.
- Beware of panaceas. Human behavior is so complex and teaching so subtle that dealing with them successfully involves complicated techniques.

Using slides of pigeons, a dog, and a little girl, Mr. Porter showed the importance of the "re-inforcement principle," stressing necessity for timing and control of stimuli.

Mr. Porter spoke of "successive approximations" applied to both pigeons and students. By reinforcing those responses that come closer to the performances he desires, the psychologist (or teacher) leads the bird (or student) from zero to the desired goal.

"Arranging the delicately programmed sequence of steps which gradually leads a student from ignorance to competence is a difficult matter," Mr. Porter said. "This has long been the province of the teacher and will continue to be so, but perhaps the psychologist and audiovisual expert can be of more assistance than in the past. The audiovisual man can increase his contribution to this cooperative venture by becoming familiar with the psychological principles of arranging subject-matter for effective teaching."

Donald Snygg, chairman of the psychology department at Oswego State College in New York, shared the podium with Mr. Porter—if not his views entirely. Dr. Snygg maintains that the S-R theory, among others of the experimental psychologists, is indeed for the "birds." The trouble with S-R theory (which Dr. Snygg associates with Skinner although Dr. Galanter in another session showed that Skinnerian machine teaching is based on a different structure, see page 274) is in its concept of the learner. The S-R theorist in his own experience sees the learner as a rat or pigeon in a box —which obviously makes the teacher the active agent.

Finds S-R Disturbing

"The implications of the S-R concept of learning in its present stage are promising and profoundly disturbing," Dr. Snygg said. "If the object of education is to teach what is already known, to promote conventional, conforming behavior, to prepare pupils to live in a world exactly like the one in which they are educated, then a crash program of S-R type research should be undertaken at once. If, on the other hand, what is desired is a creative, adaptable citizen, able to deal with problems his teachers could not have envisaged and with problems they were unable to solve, another model for learning must be used."

A more likely model in Dr. Snygg's view is one shaped by the educational psychologists through years of dealing with practical problems and known as "cognitive or perceptual field theory." Here it is the learner who makes the choices. When the learner sees his behavior as inappropriate, he changes it. Learning thus is the result of the learner's acquiring a clearer, more realistic perception of the situation with which he is dealing. Briefly, learning takes place in a number of steps beginning when the learner becomes aware of a goal and attempts to achieve it. Obstacles make it necessary for him to "perceive his situation" (or behavior) and try again in the light of this perception. Until the result is the one sought, the student continually modifies and re-evaluates his behavior.

The teacher's role consequently is to arrange the learning environment so that the student is prompted to perceive his situation and goal. Education based on this theory, Dr. Snygg believes, will equip students to cope with the "unforeseeable." After all, he said, we judge learning programs by how students can apply knowledge.

The Instructional Materials Concept

PERHAPS THE MOST important factor in implementing the instructional materials concept in these crucial times is response to change, Carolyn Whitenack, associate professor of library and audiovisual education at Purdue University, told her Convention audience.

As main speaker of the session treating this topic, Miss Whitenack said the instructional materials specialist must be responsive to imminent changes in the curriculum, in the new methods of instruction, in reorganization of schedules, and in redesigning space for learning. As harbingers, Miss Whitenack cited language labs, airborne TV, the Trump plan, content studies supported by the National Science Foundation, and the reappraisals taking place in the math, social science, science, and English areas.

She also stressed the necessity for flexible hours for students, individualized use of instructional materials, and better use of teacher time.

"We can no longer require teachers to teach seven hours a day, then start all over again the next day," she said.

The materials specialist is a director of learning, Miss Whitenack said. His capabilities will determine the extent to which the materials program moves into the curriculum. But no matter how able he is, the director needs a staff. No one person can offer all the services required of an instructional materials program.

Regrets Projectionist Clubs

"And this is not the responsibility of the school child," Miss Whitenack said, "I think we have damaged ourselves through the student projectionist clubs."

Considering a final factor in implementing the instructional materials concept—financing—Miss Whitenack plugged both the general education bill and extension of NDEA.

Miss Whitenack opened her remarks with a quote from the statement published by the Joint Committee of AASL-ASRL-DAVI in 1958. She said that there is no competition among instructional materials, each type has a unique contribution to make, and the point is to recognize these distinctive characteristics and employ them properly.

"There is no dichotomy between the book and AV worlds either," she said, commenting on Jim Finn's keynote address. "Man is distinguished by his ability to think; the best thoughts are expressed in words and written in books. So long as we think in words, we'll continue to record them."

"There is no value in a book or film, it's the idea contained in it," continued Miss Whitenack, adding that she wished people would stop beating that dead horse.

L. C. Larson, who followed Miss Whitenack as one of the three-member panel reacting to her presentation, spoke of "malnutrition" in a "supermarket" of audiovisual materials. Having an abundancy of materials in one place does not insure their proper use. Mr. Larson said he believes a look into the future would show that we are confronted with a new kind of organizational structure.

"This is going to mean the team approach, the development of programs, and so on," Mr. Larson said. "The learning environment for tomorrow will need soul searching and planning. We will be required to go way beyond the supermarket."

Audrey Newman, instructional materials consultant for the Florida state department of education, acknowledged the necessity for materials, space, and personnel, and added that the greatest of these is personnel. At present the personnel ratio in Florida is one materials specialist for every 1000 students. In looking into the future (the next 10 to 20 years) Miss Newman said she would be satisfied to see one materials specialist for 500 students—if the specialist were certified in accordance with Florida specifications.

Most Florida administrators are happy with their "new fangled librarians" whose training is almost one-half audiovisual, Miss Newman said.

Carolyn Whitenack in foreground; Elizabeth Williams, chairman of the session, and Dean Shores reaching across to greet an old friend.

Creativity and the Abstract

Louis Shores, dean of the Library School, Florida State University, concluded the panel discussion with an eloquent plea for "balance and unity" and a statement of belief that "creative understanding" comes from abstract learning.

"In my book," said Dean Shores, "we are not audiovisualists and something else. Our concept does not permit us to say that verbal materials are any more or less effective than audio or visual or olfactory or tactile or gustatory media, or media that communicate through only one of the senses, if that is possible. The strength of our IM concept is that we believe we learn through all of the senses. And I now add that we learn basically and creatively through the extra-sense. Consequently, essential to our concept is the fact that we undertake to match individual differences in learners with individual differences in media.

"To accomplish this effectively the good materials specialist is fundamentally a generalist. I was with an Air Force radio outfit and my admiration for the radio ham is unbounded. I love to look at good photography and the camera bug is a wonderful person to know. The electronics engineer who brings forth ever more startling gadgets is certainly one to conjure with. But let me emphasize, unless the camera bug, the radio ham, the electronics engineer knows the whole range of instructional materials and uses them all in the interest of the individual learner, he is not one of us. . . . If there were a way to abolish the terms 'audiovisual,' 'library' and all the other vocabulary that separates us, I believe we could implement our wonderful concept more effectively. . . . Just to deny that TV, or teaching machine, or 16mm, or hard-cover book or flat picture is not the panacea and then fight tooth and nail for its disproportionate support is not enough.

"To implement the concept truly we must acquaint ourselves generally with all the school media, old as well as new. We must resist our national genius for gadgets and devote ourselves to the abstract as well as to the concrete."

Educational Radio on the Upsurge

EDUCATIONAL radio may enjoy a tremendous surge in attention as a result of new developments. While participants in the panel on educational radio agreed that the potential of radio as we now know it was never realized, they expressed hope that new research might lead to a much larger contribution on the part of radio to classroom instruction.

Hartford Gunn, manager of WGBH-FM-TV, Boston, spoke about "Live Interconnected Radio Networks." He discussed the implications of FM Multiplex broadcasting as recently approved by the FCC. Two sub-channels can be broadcast along with the main program over a single network. With two or more transmitters and receivers working together, new types of broadcasting activities are possible. For example, slow scan television can result in picture transmission on one sub-channel to make it possible for picture reception to accompany the main program reception. In one form this could mean receiving, in effect, a sound filmstrip via radio with a new picture as often as every 30 seconds. Such a pattern might replace a good deal of television which does not require motion or action. Sub-channels can carry teletype or computer information to a central equipment location, with the feedback based on data analysis being returned on the other sub-channel—all without interfering with the main program. Disc and tape recordings could be broadcast on a sub-channel for copying at the receiving end without interfering with regular program reception. Most obvious is the broadcasting of stereophonic sound. Eventually, the entire eastern part of the United States may be in one large live interconnected FM network serving all interested educational institutions with audiovisual transmission of information, special programming, technical data, etc.

Two-Way Radio

Albert P. Fredette, manager of WAMC-FM at Albany Medical College, whose topic was two-way radio, spoke on the history of medical conferences involving Albany Medical College. The history begins with a college-to-hospital live two-way radio connection operated by amateur "hams," ranges through the current 22-college program involving 76 amateurs in a 150-mile radius, and culminates in the actual establishment of an FM station with the help of a foundation grant. Remote broadcast pickup receivers transmit from college or hospital through the FM station to any FM receiver at the participating hospitals or colleges, or in private homes. Thus, doctors and students benefit from the participation of professors, surgeons and other medical specialists who would not be available if they had to travel to a single point for the meetings. Through the use of time signals, questions are asked and discussion developed. Mimeographed materials are distributed to participants ahead of time providing background and radio cues. Sometimes a live television broadcast is watched by all participants and followed by the radio conference. This year, 6388 people participated in the conference and many doctors listened at home. This technique has wide application and WAMC-FM will be glad to help interested people start similar programs.

Jean A. Eicks, script supervisor of Broadcast Services, Station WNYE, New York City Board of Education, spoke about "New Developments in Radio Programs for Schools." She said that the program people at WNYE produce scripts in terms of broad needs in the city schools. They are leaders in this field and do not wait for teachers to clamor for a specific type of program. It is necessary to keep creating and developing different approaches and new ideas to maintain interest and listener appeal. A recent new idea involved the dramatization of scenes from science fiction books to help develop criteria for selecting good science fiction reading. Changes in organization, concept, format or content can serve as well as new ideas. WNYE is producing a series called, "Say It in English" for students in New York City schools who do not speak English, thus meeting another recently developed need .

Burton Paulu, manager of KUOM-AM at the University of Minnesota, discussed "New Findings in Audience Research." While radio was developing, there never was money for audience research. Recently there has been more concern about getting to know the audience and its reactions in the field of non-commercial radio. At the moment, for instance, it is not known whether or not television has seriously affected the size of the listening audience. In England, the BBC samples 3000 people a day on what they listen to and why. The light program gets from 60 to 70 percent of the audience. The home service program holds some 28 percent, and the Third Program, which is the most serious, attracts one to two percent. Television has cut mostly into the proportion of listeners to the light program. On most television programs of interest to educated people there is literally nothing to watch. Dramatization, lecture, discussion and music can be received as well without the picture. Television cannot compete with AM radio which has low production costs, can be taken everywhere and does not limit the listener's imagination. FM radio offers good music on commercial stations. Educational radio should offer what it can do best—music, public affairs programs, serious analysis of new developments and ideas, outstanding speakers, etc. (For further information on new findings in audience research see Mr. Paulu's new book, *British Broadcasting in Transition.*)

The panel agreed that today and tomorrow, radio has become education's best buy. It is worthy of renewed and serious attention and consideration.—SAMUEL COHEN, HEWLETT, N. Y.

INSTRUCTIONAL SYSTEMS

THE MAN AT THE PODIUM *is Francis L. Friedman of MIT who spoke to a Convention audience on instructional systems. Dr. Friedman took as his model the "packaged' physics course of the Physical Science Study Committee which, as he describes it, has three elements: (1) a textbook that does not stand alone, but that runs before and after a well-designed laboratory; (2) the laboratory; (3) films to extend the lab work and the student's ability.*

Laboratory is given preference, Dr. Friedman said, but students' techniques are limited and lab equipment is expensive. The film acts as an extension of what the student has already experienced on a smaller scale.

"You don't learn by not participating," said Dr. Friedman, "by not having someone to argue with and forgetting what you thought. You learn by observing, then talking about it. Films are terribly valuable if they lead out from something you're worrying about into the film—if they give you evidence and data to guide you to some conclusion but leave you with further questions and places to go so you keep on fighting."

Listening: Neglected Skill

FEW PERSONS WILL BE SURPRISED to hear that listening is the most neglected skill in education today. They might be more amazed however to learn that:

- Listening acuity is not based on intelligence (smart persons are probably the worst listeners).
- Age-wise, elementary school children are the best listeners, high school students next, and adults the poorest.
- For listening purposes, human speech is unbearably slow. (Tests made with the use of a machine called the Fairbanks Speech Compressor showed that listening was most efficient at a speech rate of 202 words per minute.)

Thomas R. Lewis, associate dean of Florida State University and one of the country's foremost authorities on listening, also assured his audience that listening can be taught and suggested these methods:

1. Classroom lectures emphasizing the importance of listening skills and pointing out how we handicap ourselves when we do not function as listeners. (Out of every three students entering college, only one picks up his diploma. The fact that most college students can't listen has some bearing on the case, Dean Lewis is convinced.)
2. Testing programs to determine students' listening ability. (There are many tests on the market, Dean Lewis said.)
3. Laboratory work in acoustically treated cubicles where the student can test his listening ability.
4. Making every speech teacher in the country also a teacher of listening. A study made at Ohio State University in the pre-TV era established that 70 percent of the waking day is spent in verbal activity—45 percent devoted to listening (probably increased since TV); 16 percent to reading; and 9 percent to writing. Our training programs in schools are built directly in the reverse of this, Dean Lewis pointed out. Reading is stressed through Grade 6; writing from Grade 7 through the freshman year in college; speech only with talented students; and listening—have you heard it mentioned that you can train this skill? Dr. Lewis asked.

Reacting to Dr. Lewis' presentation, C. R. Carpenter, director of the division of research at Pennsylvania State University, stated that the "appropriateness of the communication" is also a factor in listening. The principal function of a communication in a learning situation is to give the student optimum opportunity to react with the subject matter. Thus there should be an opportunity in the listening situation for the student to respond. This, Dr. Carpenter reminded his audience, is the crux of programmed learning.

Title VII: Future Possibilities

IN HIS ADDRESS to the Fifth General Session, C. Walter Stone, director of the Educational Media Branch, U.S. Office of Education, said the major contribution of the new media will be in the area of building and sustaining quality in education—they should not be considered primarily as economic aids. Commenting on the latter, Dr. Stone said we must face the fact that inequality in educational opportunity still exists and that the American people "don't yet know how or simply aren't willing to pay as they go for public instruction." Federal assistance and leadership without control seem to be the only practical answers, Dr. Stone said.

The Media Branch director also recounted several possible directions that Title VII might take in the future. During the past decade, he said, there has been a felt need for dollars to support research and development engaged in by equipment manufacturers. "I think we've come to a point when perhaps under the existing provisions of Title VII something can and should be done about this by the Office of Education as well as by such organizations as the Educational Facilities Laboratories," Dr. Stone said.

Another proper role for the U.S. Office might be to support, through contracts, the pilot production of badly needed teacher materials of a specialized nature. Still another possibility mentioned by Dr. Stone was the support of state and regional centers for distribution and handling of little used but important materials for special fields such as chemistry, physics, and the arts. He also spoke of state surveys and special studies followed by demonstrations at the local, state, and regional levels. Stressing the role of regional cooperation, Dr. Stone said, "I'm not thinking now only of physical resources and dollars. Perhaps the most important aspects of regional cooperation will have to do with creative thinking and the joint planning of projects."

Dr. Stone also touched on such problems as the training of media specialists, closer relationships among the various specialties in the profession such as textbooks, film, teaching machines, etc.; and, a better understanding on the part of the profession of the "partnership role" which the Federal Government is willing and able to play. Dr. Stone's remarks, which began with a brief assessment of Title VII achievements to date, will be published in full in the July-August issue of *AV Communication Review*.

In a review of Part A of Title VII, Jack Edling, research coordinator for the Media Branch, said that half of the funds for Part A have been appropriated for research on ETV and a fourth on teaching machines. Other areas that need exploration are the learner, the media, and the objectives, Dr. Edling said.

Part B of Title VII (dissemination) was reviewed by Seth Spaulding, chief of the Educational Materials Services Section.

INTER-

NATIONAL

RELATIONS

Shaking hands with Gerald Winfield is Jess Banguis of the Philippines whose presentation to the concurrent session Thursday morning was punctuated with flashes of humor. Also caught by Convention camera men are Lawrence L. Van Mourick, Beverly Hills, Calif., L. C. Larson, and Howard Kresge (back to camera). Obscured at left is Pramahn Hakene, Thai audiovisual director.

David E. Strom
Film Distribution
Colonial Williamsburg

WHAT WERE the highlights of the five Convention events arranged by Harry A. Johnson, program chairman for the DAVI International Relations Committee?

Only the future can detail the full import of the address by Paul S. Welty, assistant secretary general of the World Confederation of Organizations of the Teaching Profession, who spoke on "The Role of Audiovisual Associations and International Relations." Delivered Monday at the open meeting of the International Relations Committee (and to be published in a forthcoming issue of *AVCR*), Dr. Welty's address had this immediate effect: The Committee voted to recommend a resolution requesting that WCOTP establish an international committee on new media and expressing DAVI's interest in cooperating in the work of such a committee.

The resolution was subsequently passed at the fifth general session of the Convention and is currently being negotiated by Howard Kresge, chairman of the International Relations Committee. Dr. Kresge is working through the NEA Committee on International Relations. WCOTP is an international professional organization of over 5 million teachers and educators in more than 60 countries with headquarters in Washington, D.C. Its secretary general is William G. Carr, executive secretary of the NEA.

Another interesting and challenging program at the Convention was "Profile of Four Foreign Audiovisual Programs," a concurrent session Thursday morning. Professional, succinct, well-illustrated presentations were made by Mrs. Nelly Branco of Brazil, Mr. Kambiz Mahmoudi of Iran, Mr. Jess Banguis of the Philippines, and Mr. Mohammed Fateh of Pakistan. The hope is that these four ICA exchange students return to their countries with as favorable an impression of the United States as they left with their audience of over 80 persons.

Monday morning Howard Kresge of ICA gave the chairman's annual report to the International Relations Committee. In addition to calling on five Committee members to report on special projects, he directed attention to the successful start of the "people to people" correspondence program involving Committee members and 261 DAVI members who live in foreign countries. The size of this membership denotes the degree to which the eyes of the world are on DAVI, Chairman Kresge pointed out.

A new event this year was the international breakfast attended by over 75 people. Gerald F. Winfield, head of ICA's Mass Communications Media Staff, presided and gave an informal presentation of ICA's communications program in over 60 countries. Present were several ICA staff members involved in this effort and a number of foreign nationals studying in U.S. audiovisual centers as a result of it. The informal atmosphere of the breakfast is credited with helping a number of foreign guests to better understand their DAVI counterparts and to benefit more from the Convention.

That same evening the "Swap Shop on Audiovisual Programs with Foreign Delegates" continued the friendly and professional tone set at breakfast. William E. Ulrich of NEA's Committee on International Relations conducted the informal discussion among representatives from South American, Asian, European, and North American countries. In addition to explanations of training programs, the group discussed needs of various countries and prevailing attitudes.

The Wednesday evening event, "Preview of Foreign Films," was successfully arranged and presented by Edwin M. Logan of the U.S. Office of Education. A detailed report appears on page 283.

Last year a post-Convention commentary in the April issue of AVI questioned the extent to which DAVI should assume an international role. Something of a dilemma appeared in that the membership seemed domestically inclined while international demands on the organization were increasingly recognized. Consider these facts in 1961: DAVI now has 261 overseas members. A comparison with the Cincinnati Convention last year shows seven more Convention hours scheduled at Miami—a sizable bite in any convention. Reflect on the fact that foreign attendance at DAVI Conventions is not likely to diminish—given fairly accessible convention sites. Reflect also on the fact that a representative of a world-wide professional educational organization—WCOTP—appears on the Convention program to invite DAVI's participation and cooperation.

The international events at the 1961 Convention were professional, challenging, and heart-warming on the person-to-person level. These are some of the finest values to the individual in any voluntary professional association —domestic or foreign. New vistas and new activity directions on the domestic level were opened to all DAVI members at the 1961 Convention. On the international level, do the 1961 Convention events do the same? Do they begin to provide answers on that level to the Convention theme: "Assignment 1970?"

Charles Eames

THE NATION'S foremost graphic artist minced no words with his DAVI audiences. His unannounced themes were "quality," "education," and "intellectual capacity." He left no doubt that technical skills come second.

Here are some quotes from Mr. Eames' extremely quotable discourse:

"You people in AV must do something about standards—even the top 20 percent of your materials is lousy."

"Our nation faces the necessity to build up quality everywhere."

"You find a magic-lantern quality in presentations that are loaded with the best equipment."

"The proper use of graphics is the essential matter of survival—it's not always treated that way."

"Graphic artists need education long before they need education in techniques."

"Anyone who is going to operate in a profession has to continue his education for the rest of his life."

"Man today must change the frame of his complete cognitive life at least three times."

"In graphic design, the beginning is chaos, you study the chaos and build up relationships. The problem is to find links between unlike things."

"If you reduce a film from 20 to four minutes, you really learn something about the structure of the problem."

"When I go out to hire an artist, I hire somebody that can think, not somebody that can draw."

"Make your materials 'gooder'; that's the way to make them circulate. Get a good communicable package and it will get around."

[In answer to the question, How can teachers become graphic artists?] "Like scientists, teachers shouldn't abandon their disciplines. They shouldn't put on an 'art hat.' They shouldn't be anti-esthetic, either, but crude pictures really communicate."

Textbook Publishers

An excerpt from the address of W. Mac Lean Johnson, president of the Webster Publishing Company, St. Louis, Missouri.

I am sure you are wondering with all this discussion of three of the major newer media [programmed learning materials, 8mm film, TV] just exactly what this conceivably might mean for the future of the textbook. Well, actually, of course, I wonder myself. However, I know that none of the new media offer all of the desirable attributes of the textbook, even as it exists today. It is still the most flexible educational learning material of all. It is the most easily transported; it needs no mechanical devices for its use; it requires the lowest investment cost per pupil hour of learning; and it is useful for both individual and group instruction.

However, all of the newer media, in my opinion at least, enlarge the horizon of instructional possibilities and they all offer new dimensions to teaching and bring new qualities to instruction that are not possible with the textbook alone.

I think the textbook is going to be around for a long while, even in all of this new company. I think it is unquestionably going to change as it adapts itself to this new learning environment. And the question is, of course, just how it is going to adapt and how it will be used in what we might call a "media mix."

A lot of us who have been publishing textbooks for years have been surprised to find that we can resort to another format—the specialized paperback which is the same basic media we have in the textbook, but which operates in an entirely different way and which is bringing a new and broadened outlook to instruction from Grade 1 on.

I can't say too forcefully that not enough is known today about the potential of all the media for transmission of knowledge and the real relationship between these media. I think this is the central challenge and problem of our time.

Inaugurating a new tradition at Miami, DAVI honored its past presidents at a dinner preceding the keynote general session Monday, April 24. The former presidents pictured below were also platform guests during Jim Finn's keynote address. Past President Paul C. Reed, who was to have introduced the honored guests, was unable to attend. Front row (l to r) are Francis Noel (retired) formerly with the California State Department of Education; Charles Hoban, University of Pennsylvania; James Finn, University of Southern California (retiring president); Ernest Tiemann, University of Texas (incoming president); Charles Schuller, Michigan State University. Back row, Lee Cochran, Iowa State University; Robert deKieffer, University of Colorado; James Brown, San Jose State College; Paul Witt, Teachers College, Columbia University; L. C. Larson, Indiana University; Gayle Starnes, United States Government; Walter Bell, Atlanta Public Schools; and Walter Wittich, University of Wisconsin.

Clinics and Demonstrations

Creative Crafts

How do we build a better tomorrow? How do we get a student to do his very best? How do we help an individual develop his creative ability? How do we keep imagination going? These were some of the questions posed by Mrs. Ruby Niebauer during the clinic on creative crafts. Mrs. Niebauer, who is currently working as an AV research assistant at the University of Wisconsin, brought with her a large display of crafts including puppets, masks, stitchery, block prints, weaving, stencils, papier mache animals, and starch painting.

Through a discussion of these articles, through looking at the film, *How To Make a Puppet*, and by talking together, the following statements evolved:

- In order to help develop a creative individual, we must know how he ticks and how we tick.
- Mental growth—knowledge—is no good unless used. We must keep imagination going. Don't reprimand a child for doodling.
- Social growth develops through sharing—materials, work, and play.
- Physical growth in the craft program is promoted by muscle coordination—physical dexterity. More and more doctors and businessmen are turning to crafts to relieve pressures and tensions.
- Moral and spiritual growth have been emphasized through the centuries by puppetry and marionettes. Puppets have been inherited from all over the world and have been much used in countries where the illiteracy rate is high.

When we use papier mache, do we tell our pupils that papier mache blankets have saved cities during wars; do they know about the papier mache horse in World War I? It is not the end project that is important, but what goes into the person during the project. It is the creative mind, how it ticks, and what it will produce for us tomorrow that is important today. —GRATIA BAILEY GROVES, FAIRFAX, VIRGINIA.

Below, Rudy Bretz, UCLA, demonstrates overhead TV—process whereby teacher manipulates camera over small work area to magnify (on TV sets interspersed throughout room) live demonstration, study prints, transparencies.

Student Projectionists

WHILE EVERY TEACHER should be familiar with audiovisual equipment at the operative level, they should seldom, if ever, find it necessary or be required to operate the equipment themselves. This was the key point unanimously agreed to in the swap shop session on student projectionists clubs Tuesday evening. It was much discussed and generally agreed that well organized projection clubs can provide both an important service to education and a real learning experience for the pupils. (See dissenting view of Carolyn Whitenack, page 277.)

The session culminated in a number of "why don't they" questions, among which were these:

- Why don't they (equipment manufacturers) develop a foolproof self-threading 16mm sound projector?
- Why don't they (school administrators) stop suggesting that the "slow learner" or "problem pupil" be assigned to the student projection organization.
- Why don't they (state departments of education) require that every teacher demonstrate competence in his understanding and use of audiovisual materials and equipment before certifying him or permitting him to teach.

The session was coordinated by George Frazier of North Miami and Eugene Anderson of Miami. Dudley Parsons presided.—ROBERT COX, SYRACUSE

Language Teaching

SIX demonstrations of recent developments in modern language teaching composed the framework of the language laboratory clinic Tuesday evening. Approximately 150 persons were present as Elton Hocking, head of the department of modern languages at Purdue University, assisted by Joseph C. Hutchinson of the U.S. Office of Education and George E. Smith, supervisor of foreign languages for the Indiana state department of public instruction, presented the following:

- Correlated textual and recorded materials, including the new concept of audio homework (take-home discs). These new materials are programmed to a great extent, and contain basic dialogues followed by various audiolingual drills.
- A new *French Speaking Proficiency Test* for periodic use being developed by Paul Pimsleur of the UCLA French Department. Teachers interested in helping establish norms for these 20-minute taped tests by recording their own students are invited to write Dr. Pimsleur, c/o French Department, UCLA, Los Angeles 24, California. Each recorded set of answers takes but four minutes to grade.
- The experimental development of an almost completely automated language laboratory with materials in Spanish, Russian and Thai at the University of Michigan by Professor Morton. The student will use a telephone dial and "book" to dial hundreds of

four-minute tapes, to be used in order as minimal increments. The course content is programmed, requiring the greatest proportion of time and effort in preparing the total experiment. A question from the floor concerned an apparent obstacle to obtaining complete automation. The question was: "How can the equipment detect a student's mispronunciation in order to prevent him from going on prematurely to the next increment?" The experiment is approximately half completed.

- Large pictorial flash cards and posters in Spanish developed by Professor Bull of UCLA. These cards are "facsimiles of reality" illustrating contrasting experiences via contrasting pictures. The student is expected to transfer to real life the situations pictured. Thus, grammar is presented visually, with no vocalization of rules *per se*.
- A series of three four-minute films narrated in German, Spanish and French, developed at Purdue. The written materials utilize the same content as the foreign language commentaries. The audiovisual material forms the basis of the presentation and the textbook is the aid.
- Elementary school French films prepared by Mme. Anne Slack.

The program was highly interesting in its theoretical presentations (Morton's programmed language laboratory, Bull's flash cards, Pimsleur's proficiency tests), but little was presented to help the language teacher in either setting up or operating a language laboratory. In view of the widely divergent opinions being promulgated by language laboratory proponents concerning type of equipment, choice of materials and methodology, the panel might well have devoted more time to clarifying those common problems facing audiovisual personnel, language teachers and administrators.—JOSEPH L. PEYSER, UNIONDALE HIGH SCHOOL, LONG ISLAND, NEW YORK

Foreign Films

ONE OF THE MOST appealing events of the Convention was the preview of foreign films presented Wednesday evening in the Deauville pool area. Five films from four countries were introduced with appropriate commentary by persons representing the country of the film's origin.

A film used in the schools of Germany, *Im Dorf der Weissen Storche*, portrays with some animation and excellent nature photography the life of the storks. Another German film

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brought to the meeting by Wolfgang Brudny, director of audiovisual education in Bavaria, was *Schloss Bruehl*. The film is an effective means of communicating an example of rococco architecture with music on the sound track by composers of the period. There is no voice narration. The German contributions were introduced by Helen Schoettle, first secretary of the German Embassy.

A film from Thailand, *Education Under a Thatched Roof*, demonstrates the use of a magnetic-tape sound-track film and presents a comprehensive picture of educational progress in Thailand and of team teaching with all its ramifications. It was introduced by Pramahn Hakene, a college AV coordinator in Bang Sa-en.

The real *avant garde* film of the group was the Italian *Meglio de Ieri* (Geometry Lesson). This is a combination of modern art, advanced cinema technique, mathematics, physics, and philosophy all woven into a unified whole of music and movement with intriguing narration. It was introduced by Agostino Zamparutti, director of the Instituto Italino de Cultura in New York.

Les Etudiants from France was introduced by Ruth Cornfield of the Society for French-American Cultural Services. Conventional in its photographic approach, it presents a picture of the modern French university students at work and at play.

The audience of more than 100 persons, not counting hotel guests who watched from the open balcony, seemed unanimous in their enjoyment. —ALLISON V. SLAGLE, AV DIRECTOR, CHATTANOOGA

Training the Educational Film Director

A REVEALING REPORT was given by John Tyo Tuesday evening concerning his doctoral dissertation and the facts it uncovered about motion picture training in America today. Most of us are unaware that 200 colleges and universities teach film courses of some kind. As Tyo had visited and investigated the film training in the 10 largest programs, and has himself taught in several, he was able to pass on considerable detail about what courses were taught and the content in them. His analysis of how the major subject areas were handled at the various institutions aroused considerable interest on the part of several film producers in the audience, culminating in a lively session which continued elsewhere long after the meeting was officially closed.

Robert Wagner of Ohio State and John Driscoll of UCLA acted as commentators contributing several remarks on the complexity of such training, as well as the different approaches which various schools have taken. This led to several interesting comments from the audience concerning the proper balance between theory and practice, the subject of which could only remain unfathomable: accordingly the discussion faded to a colorful and cordial open end.—JOHN DRISCOLL

Organizing Media Programs

PANEL MEMBERS AND OTHERS present at the Tuesday clinic on "planning educational media programs" recommended that the U. S. Office of Education prepare and publish a Guidelines Manual for the Organization and Administration of Educational Media Programs for School Systems. Definite suggestions were given concerning the general nature of such a manual, to wit:

- The manual should be concerned with the nature of a comprehensive educational media program including *all types* of learning materials.
- It should be designed primarily for school administrators, educational media specialists, directors of instruction, curriculum directors, and school board members.
- It should include these sections: (1) a review of contributions to good instruction that an adequate media program can make; (2) a broad outline of the dimensions of an adequate educational media program; (3) a self-appraisal instrument which school systems can use in evaluating their present programs; (4) a section suggesting procedural steps involved in establishing or improving educational media programs.

Also recommended was a section with specific information on such matters as selecting media and equipment, inservice education, budgeting, central service facilities, local production, relating media to the curriculum, uses of TV, teaching machines, language laboratories, and so on.

The group recommended that the manual be developed in close consultation with persons who can speak for the audiences to whom it is primarily addressed.

In a summary statement, Frank Mason, superintendent of Gouverneur (New York) public schools, and a member of the panel, pointed out that a chief purpose of the manual must be to produce a change in thinking about educational media programs from *"nice"* to *"necessary."*

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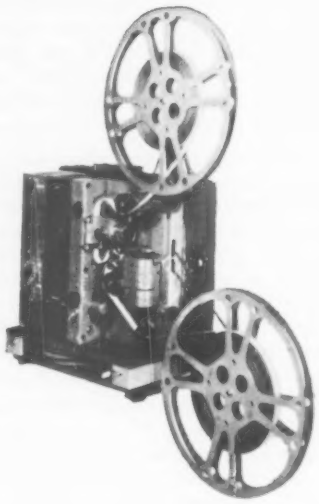

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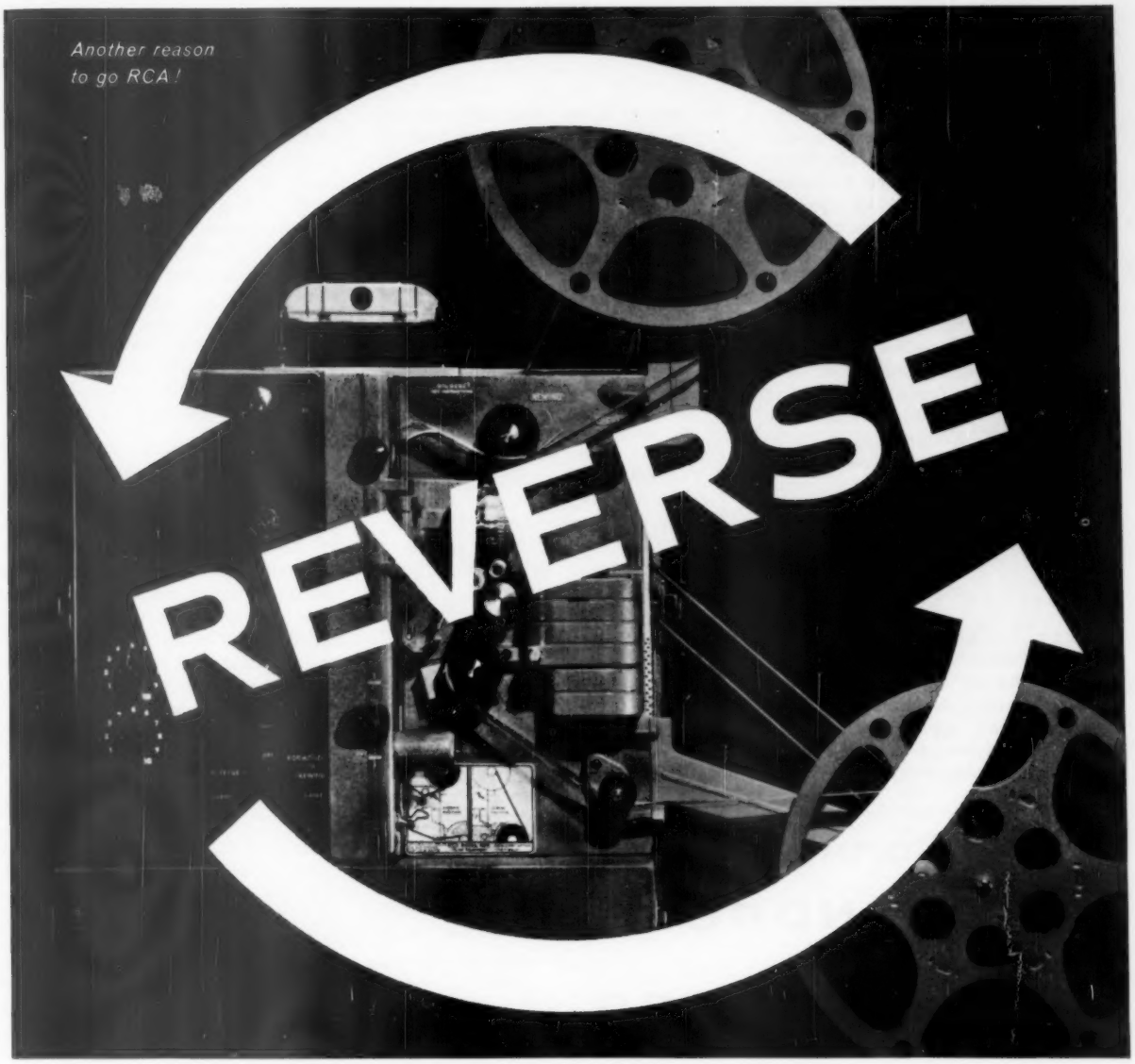

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Occupational Interest Groups

THIS year the meetings of the occupational interest groups were preceded by a joint session on "A Multi-Media Approach to the Inservice Education of Teachers in Instructional Communication" presented by Syracuse University. As noted on these pages, most of the occupational interest groups followed suit by applying the Syracuse topic to their particular area.

Reporters who supplied information for the following accounts were: William G. Henry, Indiana University; C. P. Shelby, Alhambra Schools, Phoenix; Harry M. Kauffman, University of Denver; Lowell K. Norman, Corpus Christi; Lowell W. Nelson, Lindbergh Schools, St. Louis; Constance Moy, Freeman School, Phillipsburg, N.J.; and Robert Cox, Syracuse University.

The Joint Session

SIMPLY STATED, the main objective of this session was to consider the "state of the art" in teaching from a purpose aimed at developing a greater awareness and appreciation of the values of audiovisual materials. Fulfilment of this objective was attempted by means of an intricately devised "cross-mechanized" presentation which discussed the "cross-media" concept of instruction.

Particular stress was placed on the availability, flexibility, and adaptability of instructional materials throughout the entire presentation, which in itself provided an effective example of multi-media display. Most commendable was the split-second coordination of the participants who skillfully blended a variety of overhead transparencies, slides, and film sequences to the accompaniment of a tape recorded commentary.

The culminating device utilized in this session not only served as an opportunity for audience feedback, but again illustrated how media are so complementary to ingenuity. "Programmed" overhead transparencies tested the audience for both facts and evaluative reactions.

The whole was engineered by the Syracuse contingent—Jerry Mars, Bob Cox, Don Ely, and Gene Oxhandler.

Large City Programs

The session of the Large City Systems group on Tuesday gave participants a rare opportunity to discuss problems and share experiences with some of the top AV administrators in the nation. Discussions concerning problems of distribution, teacher training, and equipment vied with interruptions for attention.

A chart of audiovisual services, expenses and materials yielded much statistical information including the fact that film circulation generally is reaching a figure of approximately 10 showings per print per year.

AV budgets were criticized for being generally too low to provide a complete program. Recommendations called for expenditures of between $3 and $5 per ADA.

Wednesday's Large City session was characterized by avid interest in the areas represented, and by unusually capable participants. A wealth of ideas and information was presented. There was an obvious desire on the part of those present to have more time than available for questions and discussion. Communication between speakers and the audience was effective and obvi-

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CARL SANDBURG DISCUSSES HIS WORK (13½ min., B&W) The Pulitzer Prize winner reads selected passages from his own works, gives advice to writers, and tells how he goes about "this business of writing." *American Literature, Senior High.*

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ously a considerable amount of thinking was stimulated. In general, the subject matter covered audiovisual program planning and administration. Great interest was shown in the inherent potentialities of educational television.

Medium-Sized Systems

The four major questions for discussion were: (1) Can the multimedia approach be achieved in the classroom? (2) Can the classroom teacher accomplish it? (3) Is a materials center needed in each school? (4) Is the cross-media approach as presented practical?

Among conclusions reached during discussion was one that the multimedia approach requires some training. It was suggested that the teacher start slowly and add materials each year. The group also concluded that materials should be decentralized and that every individual school be provided with its own materials center.

Problems in Small City Systems

The theme, "The Challenge of the Cross-Media Approach for the Small-City Audiovisual Director," was treated in the framework of six problems, to wit:

1. What responsibility does the college or university have toward local public schools for inservice education of teachers of AV? *Conclusion:* Teachers look to colleges to provide leadership in this field. They feel that college professors have the time and opportunity to study research data and to apply this knowledge in teacher training.

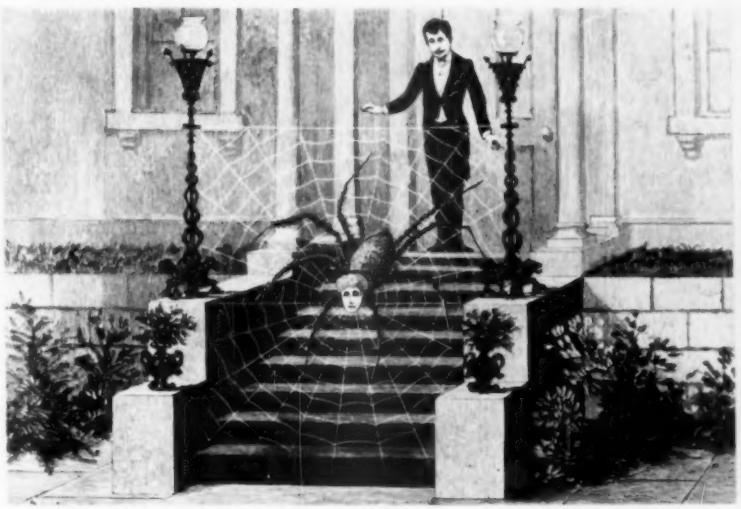
2: Can the regional educational film library serve to disseminate information on the theory of audiovisual education? *Conclusion:* An analysis of 25 newsletters showed that 50 percent of them did disseminate audiovisual theory.

3. Assuming success in multi-media techniques in the approach to his faculty, what next steps are recommended for the AV director? *Conclusion:* (1) Know what is available, where it can be found, and when it should be used; (2) Be a friend to the teacher, share your secrets, and make helpful suggestions. (3) Know each teacher's immediate concern; (4) Pass along information that some teacher has found helpful; and (5) Give one idea at the time—one suggestion will be accepted, a dozen resented.

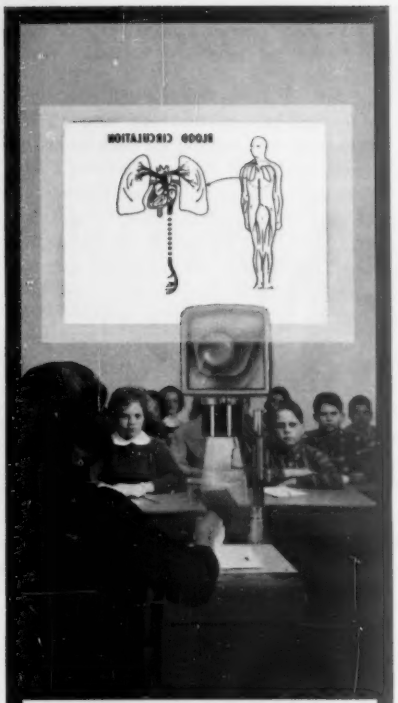
4. How can the AV director make use of the multi-media approach in the inservice education of teachers? [The conclusions reached are reflected almost entirely in the article by Marie McMahan in AVI, February 1961, page 50.]

5. Can public school systems be a source for up-to-date materials on proper utilization and new techniques of instructional communication? *Conclusion:* Yes. One school district not having access to educational radio or TV programs has worked out a plan with the telephone company for a "closed circuit" telephone system to be installed in each building. This will provide an opportunity for instructional programs to be sent to each classroom from a central studio. All programs are to be done by local teachers working together in committees. Most of them will be taped although a few will be live broadcasts. It is hoped that this will meet the local needs at present and will help prepare teachers for using radio and TV when it becomes available.

6. Where do the users of instruc-



"Goodness gracious sakes alive," exclaimed Samuel Pennebaker in exasperation. "Some of these science experiments are so deucedly complicated these days that henceforth I shall take advantage of the demonstrations in those perfectly bully Churchill-Wexler films."



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tional materials obtain information about newer techniques of utilization and application? *Among sources listed:* AVI; *The Audiovisual Directory; Filmstrip Guide; Educator's Guide to Free Films and Filmstrips; Audio Card-o-Log;* Bertha Lander's *Film Guide; Saturday Review; Instructor; Grade Teacher; Ed Screen; Projectionist's Handbook;* and reference material on AV and TV from professional libraries.

Programs in Town Systems

The first few minutes of the session were given over to Robert Cox of Syracuse who answered questions stimulated by the joint session which preceded.

The group, while small, held an enthusiastic discussion following the presentations of Ronald G. Buehler of Grosse Pointe, Michigan; W. W. Ragsdale of Phoenix, and Dalton Levy of Bethpage, Long Island. The latter, though unable to attend in person, sent a tape recording and slides.

Excellent presentations demonstrated the approach taken at the above cities by their respective AV leaders in helping to create a real understanding of the value of the multi-media approach in their schools. The open discussion highlighted some of the major questions of concern to audiovisualists in the smaller communities.

Programs in Individual Schools

A panel of eight members discussed the presentation on the multi-media approach to inservice education given by the Syracuse group, then reacted to specific problems posed by Kenneth Weber, chairman of the session. After each topic Mendel Sherman evaluated what had been said.

Specific problems discussed were (1) evaluation of materials; (2) cataloging materials; (3) ordering and scheduling materials; and (4) informing and training the staff.

• • •

Surprise Announcement

When members of the DAVI staff were entertained at an "appreciation party" shortly after the Convention, their hostess, Mickey Bloodworth, had a surprise in store for them.

Mrs. Bloodworth announced her marriage last February to Col. Roswell P. Rosengren, Assistant to the Chief of Transportation, United States Army, Washington, D.C.

Readers will be happy to know that they will not lose their convention coordinator who will continue to be known as Mickey Bloodworth in professional life.

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"Creative Use" Sought by ETV Conferees

CONVENTION DELEGATES who signed up for the three-day ETV sessions found the Dade County telecasts a remunerative experience and at the same time felt that their discussion following the telecasts produced suggestions of value to the program.

This discussion centered on the role of the teacher, nature of the teaching-learning process, scope of subject matter, class size, provisions for individual differences, and the production and utilization techniques employed in the two telecasts available to the conferees —namely 10th grade biology and 11th grade English.

The purpose of the conference as stated by Chairman Joe Hooten of Florida State University was to show an ETV program in operation, to find out how presentation techniques can be improved, to point out the strong and weak points of ETV as a teaching tool, and to answer some questions about production and utilization.

On the second day the conferees had an opportunity to visit a school participating in the Dade County program, and, at Chairman Hooten's invitation, suggested various production techniques. Among them were: varying the camera angles, having more than one teacher on the program, using visuals to illustrate obscure points rather than obvious ones, concentrating on AV techniques amenable to TV but difficult for the classroom teacher, and stressing preparation of teachers' guides.

During the conference, resource people from ASCD, DAVI, NAEB, and Dade County's WTHS-TV served as panel participants and spokesmen for the various sections. [The participants worked in groups divided according to subject matter—biology and English, and subdivided according to specialty—production and utilization.] During the final discussion session Wanda Mitchell, director of the television project for Evanston Township High School, pointed out to delegates that reaction to TV lessons is contagious—if the teacher doesn't like it, the children usually agree with her.

Rudy Bretz, ETV head at the University of California, suggested rotating teachers to avoid monotony. Phil Lewis, Chicago Board of Education, emphasized the importance of teaching guides. Bernarr Cooper, Florida State University, warned against covering too much material in a single telecast; he also pointed out that a major problem in ETV is to specifically define the role of the studio teacher and the classroom teacher.

Curtis Knowles, FSU's ETV consultant for Dade County, informed delegates that workshops are being held for classroom and TV teachers, that team teaching is being practiced, and that expenses have been cut down considerably allowing great savings for the school system. He also stated that steps have been taken for continuous evaluation of telecasts.

The fact that the conferees' suggestions sought out more creative use of the television potential and more sophisticated development of production techniques is a healthy sign. The over-all objective of providing a rich learning environment for the student was constantly brought to the forefront. It was the consensus of the group that television will not succeed as a major force in education until it can demonstrate effective learning for the individual student.

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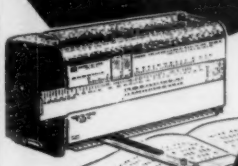

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By Way of Explanation

THOUGH TWICE AS VOLUMINOUS as that of any former year, this Convention report falls short of complete coverage. It may be, as Dr. Hyer has suggested, that the DAVI Convention has outgrown the kind of report that can be made in a single issue of AVI; that a proceedings-type publication should be contemplated for the future.

Since the September issue of AVI will be dovoted to organizational matters, the editors felt that a comprehensive report of Board deliberations and Committee restructuring could be deferred until then. (Reports turned in by Committee members for the Convention issue will be used at that time.)

The research papers read at the Convention will be turned over to the editors of *AVCR* with the assumption that some of them will reach *AVCR* columns—one, by Eugene Oxhandler on subliminal stimuli has already appeared (Vol. 8, No. 3, May-June 1960); a second, a report on experimentation in adapting the overhead projector, by Clayton W. Chance, will be covered in the July-August issue as one of the Title VII research abstracts.

The concurrent session on new equipment will be column material for Equipment Editor William H. King. Readers can expect to see something on this in the fall issues.

See page 274 for news of the teaching machine presentation to the Religious Educators by John Barlow. In their second session the religious group heard a discussion on interfaith TV programming. As reported by Walter N. Vernon, editor of Methodist publications in Nashville, the latter revealed that: There has been little interfaith planning of radio and TV programs as yet. However this is an area where more may be accomplished through cooperative effort because (1) religion is not yet making much impact in the U.S. through the mass media; (2) many of the problems faced are common to the three major faiths; (3) the audiences reached are usually made up of persons of all faiths; (4) better program time could probably be secured by working together; (5) there is need to change the common misconception that hostility exists among the three major faiths; and (6) in our pluralistic society individuals must be helped to know more about one another's faiths.

The Armed Forces Section this year again scheduled some of the best demonstrations seen at the Convention, notably "Animated Transparencies," by James Barry, USN Training Devices Center, Port Washington, Long Island, N.Y.; and "Technamation" by Capt. Howard Hitchens, U.S. Air Force Academy. John Kubilis, Jr. showed slides of the management information control system at Redstone Arsenal, Alabama—an impressive illustration of advanced techniques in the use of TV and loud speaker equipment for efficient communication.

Lee Cochran reports that the successful meeting of the National University Extension Association's Division of Audiovisual Communication prompted that group to recommend a second meeting with DAVI in Kansas City next year. Writes Mr. Cochran: "The DAVC is an organization working within the National University Extension Association. About four years ago it reorganized to include the broad aspects of communication—audiovisual, radio, and television. Its primary purpose is to assist other areas of Extension Services such as correspondence study, extension classes, conference workshops, and all other phases of adult education in the improvement of communication techniques."

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AV1561

Resolutions

Submitted by members of the DAVI Resolutions Committee: Ward E. Ankrum, Carlton W. H. Erickson, Elizabeth Golterman, E. Dudley Parsons, William Sanborn, and Don G. Williams, Chairman.

NATIONAL DEFENSE EDUCATION ACT

THE Department of Audiovisual Instruction of the National Education Association favors a five-year extension of the National Defense Education Act of 1958. The Department would like to recommend to the Congress of the United States that the following changes be made in the present National Defense Education Act when it is extended:

1. If audiovisual materials, including the newer media of communication, are to be properly utilized in our public schools, DAVI recommends strongly that funds under Title III as well as Title VII of the National Defense Education Act be made available to institutions of higher education which have schools of education or are responsible for the training of teachers.

2. With new educational media developing as rapidly as at present, some provision should be made in the revised National Defense Education Act so that institutes and a fellowship program could be introduced and conducted to further the more effective selection and use of the newer media of education by both classroom teachers and audiovisual specialists. The need for a program of institutes and fellowships in the area of newer teaching media has become manifest during recent years because of rapid advances in communications technology and learning theory and also because of the stimulus given to this field by the National Defense Education Act of 1958.

3. It is important that more attention be given to the dissemination of proper classroom utilization procedures for the newer educational media. Although this will entail strengthening Title VII B of the present Act, it does not imply that Title VII A of this Act should not be continued in its present form. Both parts A and B of Title VII are extremely important in our opinion.

4. It is urged that Title III of the pres-

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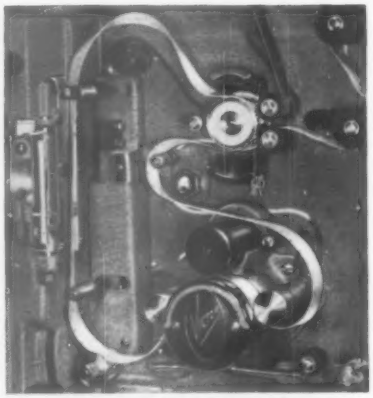

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Resolutions Continued

ent National Defense Education Act be expanded, when the Act is extended, to embrace all academic subjects usually included in the course of study of our public schools.

The Department of Audiovisual Instruction is vitally concerned with the extension of NDEA and with the changes proposed above. When proposed changes are being considered for the National Defense Education Act, DAVI will be prepared to present in greater detail the points made above, and to document the need for these changes.

With the present rapid development of the new educational media, with the stimulus provided by the NDEA in the use of the new educational media, and with the rapid advance in the theoretical bases for learning and communication there has become apparent a need to retrain teachers in the effective use of the new educational media.

DAVI recommends that provision be made in the NDEA for institutes and fellowships for teachers in the use of newer teaching media. The Department envisions a program similar to that now in effect for retraining modern foreign language and science teachers.

INTERNATIONAL RELATIONS COMMITTEE RESOLUTION

THE INCREASED INTEREST of the members of DAVI in the international exchange of audiovisual materials prompts the need for a means to facilitate the flow of information about these materials across international borders. For certain subject matter areas this exchange of information is possible through the World Confederation of Organizations of the Teaching Profession.

DAVI therefore requests WCOTP to establish an International Committee on New Media. And further, DAVI herewith expresses interest in cooperating in the work of such an International Committee.

SUPPORT FOR INTERNATIONAL ACTIVITIES

PROBABLY no segment of education has a higher percentage of its members on overseas assignments, or is requested to send more of its products abroad (particularly educational films), or is called on more often to represent the United States at international festivals or exhibits than the audiovisual field.

We are frequently called upon to act as host to small groups of foreign scholars or leaders who look to the United States for outstanding leadership in the field of audiovisual communications.

We, therefore, request that the National Education Association explore with appropriate federal agencies the possibility of obtaining financial assistance to:

1. Make possible the participation of key audiovisual leaders from the United States in international meetings held abroad, such financial assistance being limited to elected officers of international organizations or appointed non-governmental representatives at international meetings.

2. Make possible participation by American organizations in projects of international organizations (such as the co-

production project of the International Council for Educational Films).

3. Enable the Committee on International Non-Theatrical Events to (a) send a non-government official representative of non-theatrical films to the Venice and Edinburgh Film Festivals; (b) meet administrative costs involved in selecting suitable films for designated foreign film festivals, publication of brochures for distribution at festivals, and preparation of appropriate foreign language sub-titling.

4. Make it possible for AV specialists from the United States to study and/or teach abroad.

5. Make it possible for individuals or small groups of foreign scholars in AV communications to come to the United States to attend conferences or to study for short periods.

RESOLUTION ON EDUCATIONAL TELEVISION

AT THE PRESENT TIME many schools, colleges, and communities in our nation are still without the benefits of educational television because of the initial costs. Still other communities which now have television find that their existing facilities are not adequate to meet local ETV needs. The Department of Audiovisual Instruction strongly supports federal legislation designed to expedite the establishment or improvement of television facilities (including both broadcast and closed-circuit television) in our public schools, colleges, and communities by the authorization of grants to the states. Such legislation is urgently needed if educational television is to realize its potential. DAVI urges the Federal Communications Commission to continue to hold in reserve those educational channels allocated but unused until educational institutions can activate them.

DAVI further supports the FCC in seeking methods of re-allocating VHF-TV channels from commercial to non-commercial use.

THE AGREEMENT TO FACILITATE THE INTERNATIONAL CIRCULATION OF VISUAL AND AUDITORY MATERIALS OF AN EDUCATIONAL, SCIENTIFIC AND CULTURAL CHARACTER (BEIRUT)

THE Department of Audiovisual Instruction expresses gratification that the United States Senate has given its advice and consent to ratification of the Agreement to Facilitate the International Circulation of Visual and Auditory Materials of an Educational, Scientific and Cultural Character (Beirut, 1948); and that the Senate has given its encouragement and support to this Agreement since its inception.

DAVI now urges that the Congress approve the necessary enabling legislation with all possible speed and further urges that the Executive Branch move rapidly upon completion of the necessary legislative action to arrange for full participation by the United States in the Agreement.

HOUSE COMMITTEE ON POST OFFICE RESOLUTION

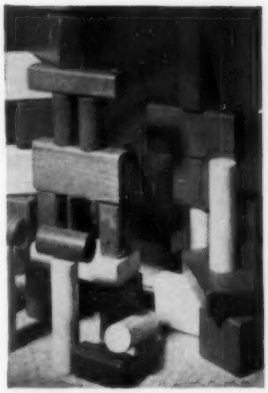
THE Department of Audiovisual Instruction of the National Education Association is vitally concerned over the need for schools in this country to secure through the mails a wide variety of audiovisual materials, many of which are rented for short periods of time. Minimum postal rates on such instructional materials are essential to their continued use by our schools.

Last year the House Committee on Post Office and Civil Service gave serious consideration to legislation designed to increase postal rates on education and library materials and did not act on this legislation. DAVI would like to go on record as wholeheartedly supporting this position taken by this House Committee in relation to HR 11140 in the 86th Congress.

While the House Committee on Post Office and Civil Service held hearings last spring on these proposed postal increases, Mr. William King, chairman of the DAVI Legislative Committee, appeared as a witness at these hearings and effectively stated the need for continuing the present relatively low postal rates on instructional materials. The Department of Audiovisual Instruction would like to take this opportunity to extend its sincere thanks and appreciation to the chairman and to all members of the House Post Office and Civil Service Committee of the 86th Congress for the hearing which they gave to Mr. King and for the courtesies extended to Mr. King at that time.

DAVI at this time would also like to extend special thanks to Congressman George M. Wallhauser of New Jersey for his effective leadership in the area of postal legislation, as well as his considerable assistance to Mr. King and other members of the DAVI Legislative Committee.

(Continued on the next page)



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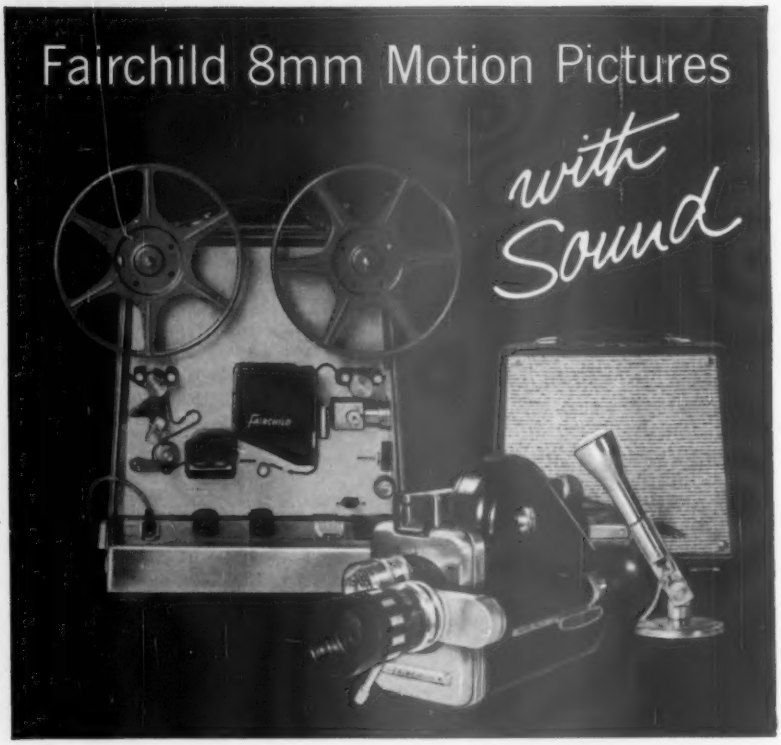

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Professional Quality: Fairchild's revolutionary motion picture system is the first 8mm synchronized sound equipment; makes and shows movies (color or black and white) with professional quality. The transistorized camera records lip-synchronized sound and action—perfectly and automatically. Its audio system puts true-to-life sound directly onto a thin magnetic stripe on the film. You simply set the volume level, aim and shoot. Best of all, it's truly portable—weighs just 4½ lbs., is powered by a rechargeable long-life cadmium battery.

Real Simplicity: The projector is as revolutionary as the camera. It has an f/1.6 lens and new pre-focused high lumen lamp for clear, brilliant, colorful movies. You can show to as many as 50 people. In addition to fine picture and sound projection, with this versatile unit you can remove sound whenever you want, or add sound over sound. You can even add narrative background music or other sound effects to *silent* films. The projector weighs only 24 lbs., is as easy to operate as any "silent" projector.

Low Cost: Cost is the most amazing part of the whole story. You can make your own 5-minute color sound movie for as little as $11. And the camera and projector are priced low enough to make sound films a reality for any school. Write us for prices—or see your local dealer.

Free Literature: For complete information on the Cinephonic 8 sound motion picture system, write to Fairchild Camera and Instrument Corporation, Industrial Products Division, Dept. AV-6, 580 Midland Avenue, Yonkers, New York.

FAIRCHILD
CAMERA AND INSTRUMENT CORP.

Resolutions Continued

THE AGREEMENT ON THE IMPORTATION OF EDUCATIONAL, SCIENTIFIC AND CULTURAL MATERIALS (FLORENCE)

THE Department of Audiovisual Instruction expresses gratification that the United States Senate has given its advice and consent to ratification of the Agreement on the Importation of Educational, Scientific and Cultural Materials (Florence, 1950); and that the Senate has given its encouragement and support to this Agreement since its inception.

DAVI now urges that the Congress approve the necessary enabling legislation with all possible speed and further urges that the Executive Branch move rapidly upon completion of the necessary legislative action to arrange for full participation by the United States in the Agreement. DAVI advocates the fullest possible application of the Agreement to facilitate the circulation of the educational, scientific and cultural audiovisual materials referred to within that Agreement.

RESOLUTION TO BE RECOMMENDED TO NEA

THE Department of Audiovisual Instruction requests the National Education Association to consider and adopt the following resolution:

"The Association is fully aware of the research and other evidence related both to the importance of personal contacts of teachers and students and to the educational potential of educational films, filmstrips, television, radio and related means of communication. Therefore, the NEA encourages the adequate and wise use of the newer media and continues to encourage extensive experimentation and research in the more effective use of these resources in education. The Association urges vigorous action to develop the potential of television, both closed-circuit and broadcast, and other newer communication resources, keeping in mind their possibilities for individual as well as for group instruction. The Association supports the use of federal funds to stimulate the development of communication resources in education, and believes that federal funds could well be used to upgrade educational opportunities in all subject areas by assisting in the wider purchase and use of these newer media by the schools. Several studies have shown that one of the deterrents to wider use of the new media is capital outlay necessary to have them available in the classrooms at the time they are needed by the individual teacher and class."

RESOLUTIONS OF APPRECIATION

I. To the Florida Audiovisual Association, the people of Dade County, and to all the many other individuals and groups who made the 1961 Convention possible:

(a) To Thomas D. Bailey, Superintendent, and Barry Morris, Consultant in Audiovisual Education, Florida State Department of Education

(b) To Joe Hall, Superintendent, Dade County Public Schools, and to Dan Westfall, Administrative Assistant, Dade County

(c) To Leone Lake, President of FAVA, to Edgar Lane, Supervisor, Instructional Materials, Dade County Board of Public Instruction, and to Kathryn Carlin, AV Supervisor, Dade County

Charlie
the Destroyer

Eyebrows are not enough!

It's true... Nature gave us eyebrows to protect our eyes from overhead light, but unfortunately, eyebrows can't shut out reflected light. Glare (reflected light) can only be controlled by diverting the strong sunlight *upward* before it enters the room and only a Venetian Blind can give perfect control of sunlight, from rooms suitable for Audio-Visual instruction to perfect indirect light.

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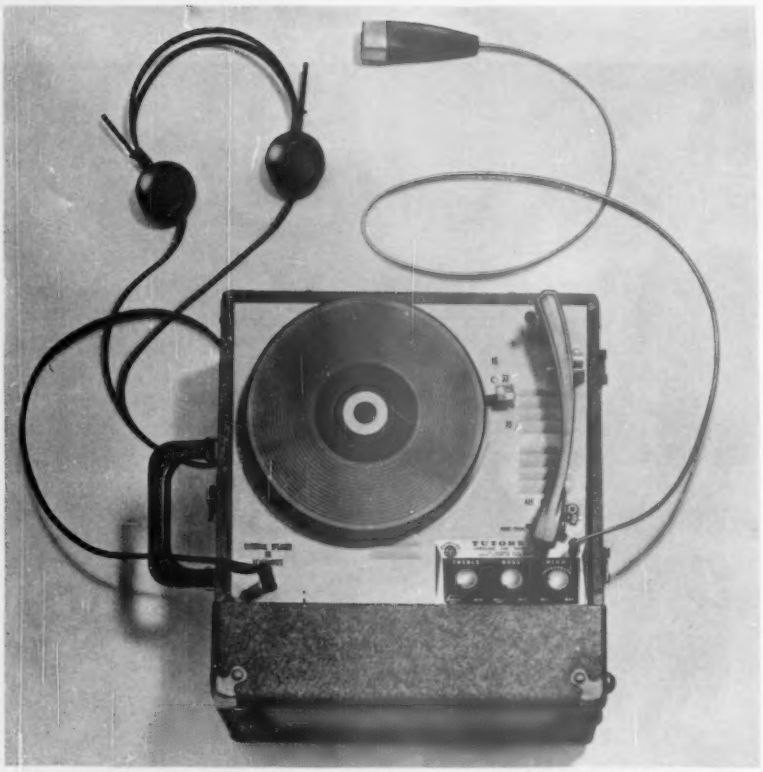

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THE LEARNING PROCESS

The TUTORETTE® lets the student compare the recorded voice with his own as he listens through the headset and speaks into his microphone. FOR GROUP INSTRUCTION or as a classroom record player or P.A. system, the Tutorette plays all four speeds, has a built-in 9" coaxial tweeter cone speaker and a 12 watt transformer-powered amplifier. MULTIPLE INPUT JACKS for language lab mike, tape recorder or radio. OUTPUT JACK for all headsets, listening systems or external speakers with standard plugs. SEPARATE CONTROLS for treble and bass, etched control panel. PROTECTED PHONO NEEDLE won't strike motorboard, knobs or side of case. SCUFF RESISTANT, silver brown fabricoid-covered 3/8" plywood case with metal corners and knees, spring cushioned plastic feet, and solid plastic, sure-grip handle. Carrying weight 18 lbs.

ATC 300L $69.50 net
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Optional Mike and
Headset $15.92 net

$69.50

ATC 300VL with variable speed turntable and illuminated strobe.
$84.50 net. $126.75 list.

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AUDIOTRONICS

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Resolutions Continued

(d) To Otis McBride, Head, Department of Audiovisual Education, Florida State University, to Joe Hooten, Director of Television Teacher Training, FSU, and to Clif Mitchell, Director, Television Education, Dade County

(e) To the chairmen and the many individual members of the Convention committees

(f) To our colleague associations, AASA, AASL, ACSSAVO, APA, ATPI, ICA, NAEB, NAVA, NSSC, and PSSC.

(g) To all exhibitors

(h) To Edith Lane, Walter Lake, and all the husbands and wives of all of the local committee members

(i) To the national staff

(j) To the Deauville Hotel, its convention manager, Dick Elterman, and his assistant, Don Coplin.

II. To the audiovisual business community for its leadership and product development and its continuing interest in the audiovisual profession as reflected in the national program through advertisements in DAVI publications, exhibits and other Convention activities, and through formal affiliation with DAVI as business members.

III. To the National Audiovisual Association, its officers, and executive staff for their cooperation with DAVI in Washington, in the 50 states, and in many communities.

IV. To the International Cooperation Administration for the unusual rapport and mutual assistance that exists between its Communication Media Staff and DAVI.

V. To the United States Information Agency Motion Picture Division for its understanding and assistance.

VI. To the State University of Iowa for continuing interest and support of the DAVI national archival collection.

VII. To Kent State University for the continued interest, support, and leadership which this university and its officers have given to the National Tape Repository.

VIII. To Lawrence G. Derthick, past Commissioner of Education for outstanding leadership during his term of office.

IX. To Roy Hall for statesman-like leadership during his term as Assistant Commissioner of Education.

X. To A. A. Lumsdaine and Robert Glaser for the scholarship evidenced in the 736-page volume, *Teaching Machines and Programmed Learning: A Source Book*.

XI. To Bruce E. Mahan in recognition of his support of audiovisual education over a period of 31 years in the State of Iowa, including the planning of many city, county, and statewide conferences, and for his support of the Lake Okoboji Audiovisual Leadership Conference and other national conferences.

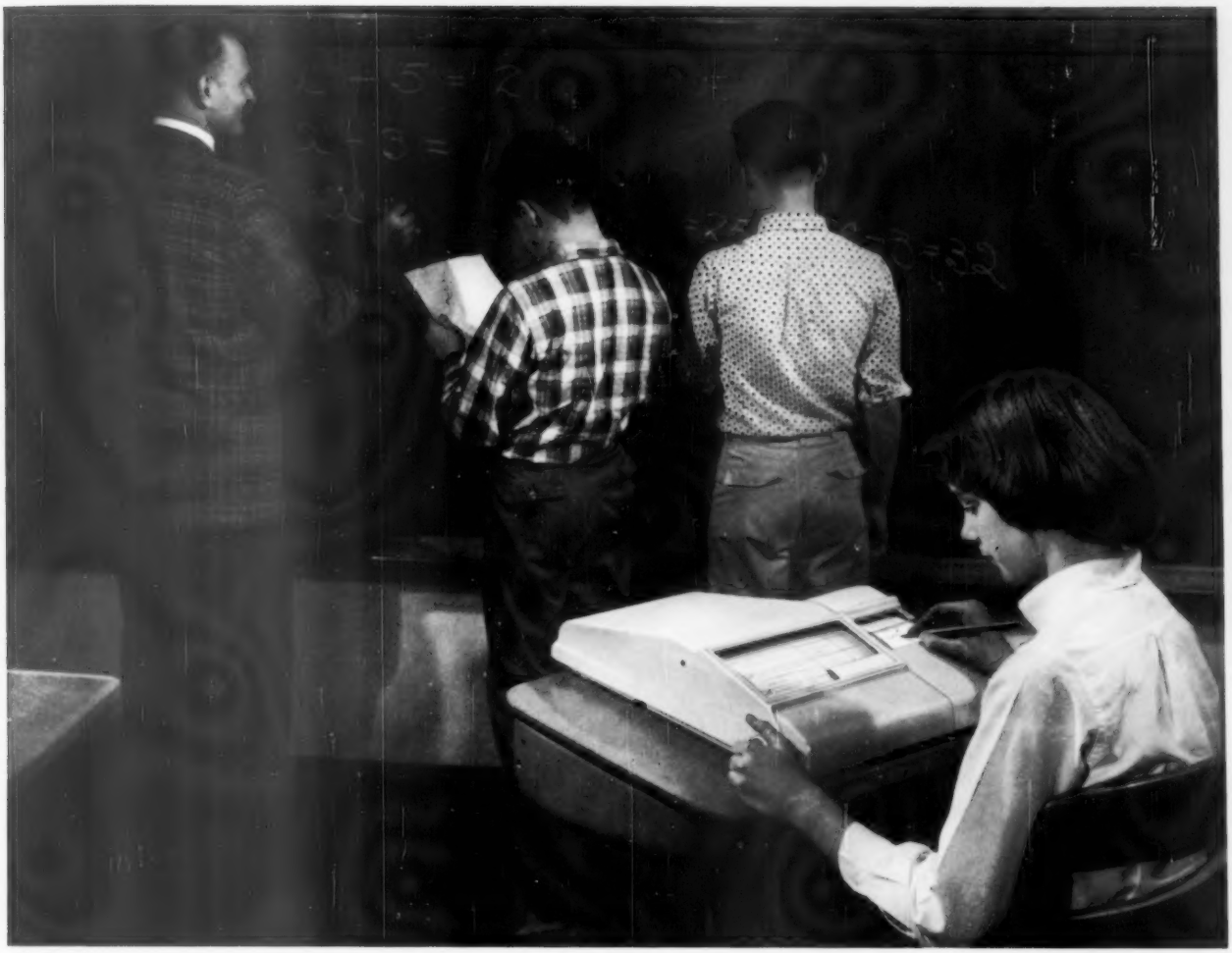
IN MEMORIAM

THE MEMBERS of DAVI wish to note with sorrow the deaths of these friends and to extend sympathy to their families:

H. Herbert Myers, President of the Charles Beseler Company

John Blair, Audiovisual Director, Jefferson County Schools, Lakewood, Colorado.

Russell Yankie, for many years prominent in AV sales work.



"[teachers] can concentrate on the more creative art of illuminating the material"... SATURDAY EVENING POST AND READER'S DIGEST

Teaching machines are in the news! The most versatile, practical and inexpensive machine (sells for $32.00) on the market is the new KONCEPT-O-GRAPH.

The key to any machine is the quality of the program and the New KONCEPT-O-GRAPH handles all of those based on the Skinner approach. This includes 8½ x 11 mimeographed, dittoed or printed sheets, folded strip programs or the long roll style. *And you can design your own programs for the* KONCEPT-O-GRAPH! Mimeograph and Ditto programs work perfectly! Use drawings, color, large or small typewriting, printing or script; each is clearly seen and read through the large 4″ x 8″ window.

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A *detachable* answer unit is included with all orders. This extra machine feature works in synchronization with the basic unit, can be positioned for either right or left handed students, and accepts ordinary rolls of paper tape up to 3½″ wide. *Saves you money by permitting the reuse of programs.*

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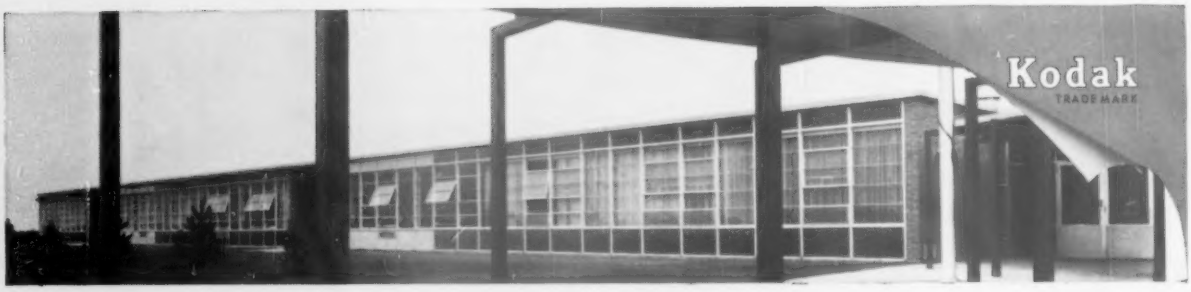
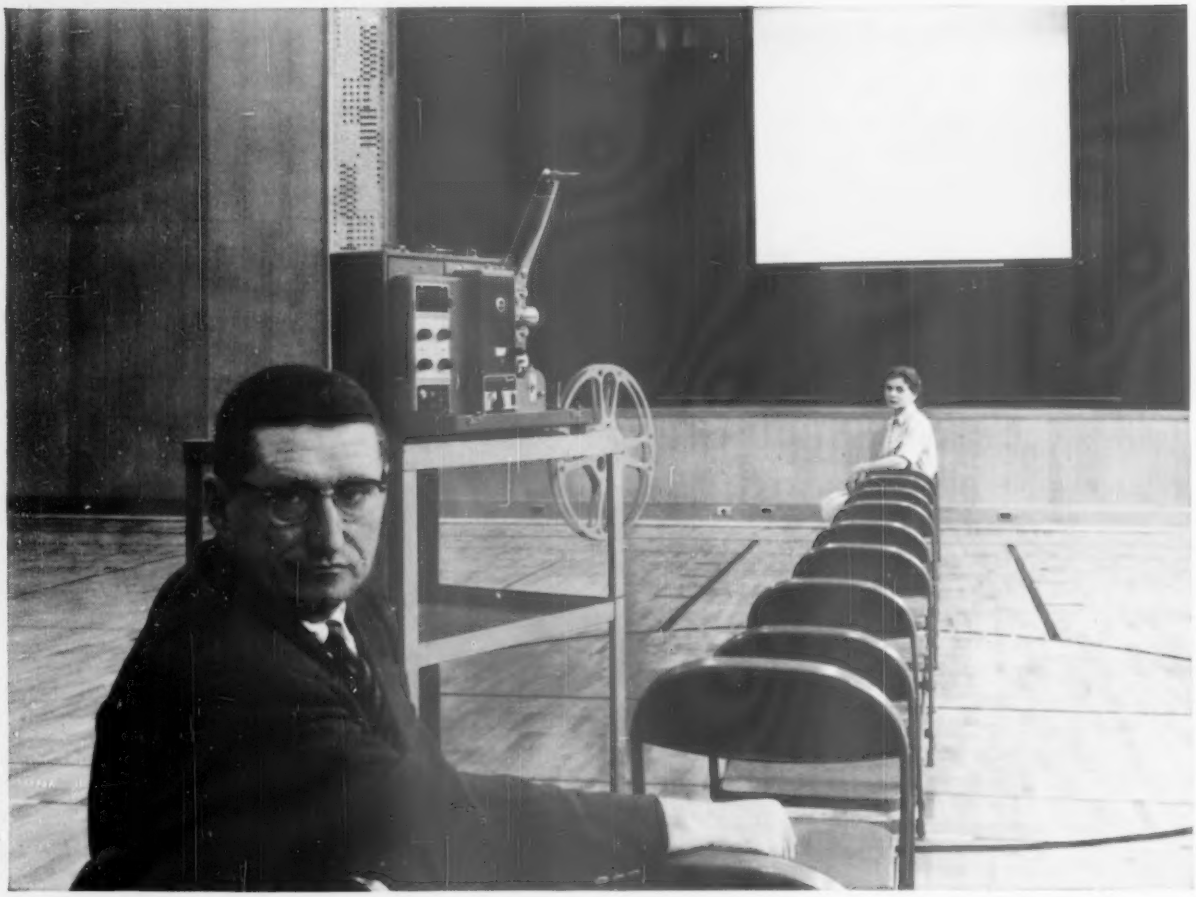


At the new Baird Road School, Penfield, N. Y., James M. Meagher, Coordinator of Instructional Materials for the Penfield Schools, says:



"No matter where you sit, the sound is clear with our Kodak Pageant Projector."

"Frequently in our Baird Road School we have motion pictures on loan for assembly programs. Hence we've provided for darkening the gym . . . and the same Pageant Projectors used in the classroom provide ample sound and screen brilliance —even though the gym is 70′ x 90′. Wherever you sit, front row or back, the sound is clear and pleasing."

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